



CDFB92 FUE  
DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 27th FIGHTER WING (ACC)  
CANNON AIR FORCE BASE, NEW MEXICO  
AFB RFD 92

18 AUG 1992

27 SG/CC  
100 S DL Ingram Blvd Suite 200  
Cannon AFB NM 88103-5217

Mr Benito Garcia  
New Mexico Environment Department  
Hazardous and Radioactive Material Bureau Chief  
P O Box 26110  
Santa Fe NM 87502

RE: Final Specifications on Landfill 5 Cell 3

Dear Mr Garcia

Enclosed are the final specifications and blueprints for Landfill 5 Cell 3 soil cap at Cannon AFB. I understand that Cannon AFB cannot proceed with construction of this project until you provide us with written approval. An expeditious review of this material is greatly appreciated as we are preparing to solicit bids on the construction of the project at the end of this month.

If you have any questions please contact Capt Charles Granade or Mr Jim Richards at (505) 784-4639.

Sincerely

CHRISTOPHER S. LONG, Colonel, USAF  
Commander, 27th Support Group

1 Atch  
Specifications

cc: S. Stoddard - NMED  
HQ ACC/CEV

BARBARA / stoph:  
HAS these plans spec  
been approved by you?  
ETA



SOLICITATION NO. DACA47-92-B-0045  
DATE: AUGUST 1992

US Army Corps  
of Engineers  
Albuquerque District

SPECIFICATIONS

FOR

**LANDFILL #5 CELL #3  
SOIL CAP**

CANNON AIR FORCE BASE  
CURRY COUNTY, CLOVIS, NEW MEXICO

"INCREASE PROFIT - SUBMIT VECP'S"

**TO VIEW THE MAP AND/OR  
MAPS WITH THIS DOCUMENT,  
PLEASE CALL THE  
HAZARDOUS WASTE BUREAU  
AT 505-476-6000 TO MAKE AN  
APPOINTMENT**

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DACA47-92-B-0045

LANDFILL #5, CELL #3, GEOCOMPOSITE SOIL,  
CURRY COUNTY, CANNON AIR FORCE BASE, NEW MEXICO

**LIBRARY COPY**

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<b>SOLICITATION, OFFER, AND AWARD</b> (Construction, Alteration, or Repair)	1. SOLICITATION NO. DACA47-92-B-0045	2. TYPE OF SOLICITATION <input checked="" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 08/14/92	PAGE OF PAGES 1/ 2
	IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.			

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO. SWACTC-2203-0002	6. PROJECT NO. DACA47-92-B-0045
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7. ISSUED BY USAED, Albuquerque ATTN: Contracting Division P.O. Box 1580; 517 Gold SW Albuquerque, NM 87103-1580	CODE AD-ADM	8. ADDRESS OFFER TO USAED, Albuquerque ATTN: Contracting Division P.O. Box 1580; 517 Gold SW Albuquerque, NM 87103-1580
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9. FOR INFORMATION CALL:	A. NAME Phyllis M. Richardson	002	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) (505)766-2350
--------------------------	----------------------------------	-----	--

**SOLICITATION**

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date):

LANDFILL #5, CELL #3, GEOCOMPOSITE/SOIL CAP, CURRY COUNTY,  
CANNON AIR FORCE BASE, NEW MEXICO

Defense Order Rating for this acquisition is DO-C2. For technical information, please call Blaine Kemsley at 505-766-8002. Standard Industrial Classification Code for this acquisition is 1794. Handcarried bids must be delivered to the Bid Opening Officer at the place of bid opening at 517 Gold Ave SW, Room 8214, no later than 2:00 p.m., local time, on date specified in Block 13A of this form.

NOTE: BIDDERS ARE ADVISED THAT THIS REQUIREMENT MAY BE DELAYED, CANCELLED, OR REVISED AT ANY TIME DURING THE SOLICITATION AND/OR FINAL AWARD PROCESS AND IS SUBJECT TO AVAILABILITY OF FUNDS.

This acquisition is unrestricted advertising, open to both large and small business concerns.

11. The Contractor shall begin performance within 10 calendar days and complete it within 120 calendar days after receiving  award,  notice to proceed. This performance period is  mandatory,  negotiable. (See SC-1.)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12B.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	12B. CALENDAR DAYS 010
--	---------------------------

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 0 copies to perform the work required are due at the place specified in Item 8 by 2:00 p.m. (hour) local time 09/15/92 (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee  is,  is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

~~Offers~~ Offers providing less than 60 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)

15. TELEPHONE NO. (Include area code)

18. REMITTANCE ADDRESS (include only if different than Item 14)

CEC: \_\_\_\_\_ CAGE: \_\_\_\_\_ TIN: \_\_\_\_\_

CODE \_\_\_\_\_ FACILITY CODE \_\_\_\_\_

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within \_\_\_\_\_ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)

AMOUNTS ► SEE ATTACHED SCHEDULE

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.									
DATE									

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

20B. SIGNATURE

20C. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

14 DAY PROMPT PAY

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)

ITEM

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO

26\*

10 U.S.C. 2304(c) ( )

41 U.S.C. 253(c) ( )

26. ADMINISTERED BY

CODE

27. PAYMENT WILL BE MADE BY

U.S. Army Corps of Engineers  
Cannon Resident Office  
Building 250  
Cannon AFB, NM 88103  
\*Designated Billing Office

\*USAED- Ft. Worth  
ATTN: CESWFRM-FE  
P.O. Box 17300  
Ft. Worth, TX 76102  
\*Designated Paying Office

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return \_\_\_\_\_ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.

29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation, is hereby accepted as to the items listed. This award summarizes the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)

31A. NAME OF CONTRACTING OFFICER (Type or print)

30B. SIGNATURE

30C. DATE

31B. UNITED STATES OF AMERICA

31C. AWARD DATE

BY

BIDDING SCHEDULE  
(To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
1.	Landfill Cover, Complete	Job	Sum	***	\$ _____
2.	Demolition, Barbed Wire Fence, Grading, and All Other Work Not Separately Listed	Job	Sum	***	\$ _____
3.	Certified Final Survey On Site	Job	Sum	***	\$ _____
3.	Final As-Built Drawings	Job	Sum	***	\$ <u>1,000.00</u>
TOTAL AMOUNT					\$ _____

## NOTES:

1. Bidders must bid on all items.
2. ARITHMETIC DISCREPANCIES: (APR 1984)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

- (1) Obviously misplaced decimal points will be corrected;
- (2) Apparent errors in addition of lump sum and extended prices will be corrected.

(b) For the purposes of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, extensions, and totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids. (EFAR 14.201/90)

BIDDING SCHEDULE (Cont'd)

NOTES: (Cont'd)

3. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

4. PROGRESS PAYMENT REQUESTS made by the Contractor pursuant to the provisions of Contract Clause, PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS, shall be submitted on ENG FORM 93 to the billing office as designated on Block 26, Standard Form 1442, Solicitation, Offer and Award, back. ENG FORM 93 shall be submitted to that office on the 1st of each month in appropriate form and certified. A copy of ENG FORM 93 and Certification (SWA 739-R) are attached at the end of the Contract Clauses. Xeroxed copies of the form shall be furnished on that same date to the Corps of Engineers offices designated at the Pre-Construction Conference.

All information required by the terms of the solicitation must be furnished. **MISTAKES OR OMISSIONS CAN BE COSTLY.** Important items for you to check are included in but not limited to, those listed below. This checklist is furnished only to assist you in submitting a proper bid. Check as you read.

- [ ] Have you acknowledged all amendments?
- [ ] Have you completed the Bidder's Representations and Certifications? (**SPECIAL NOTE: The Certification of Procurement Integrity Clauses must be completed, signed, dated and submitted with bid.**)
- [ ] Is your bid properly signed?
- [ ] If a bid guarantee is required, is it included with your bid? (A late bid guarantee is treated the same as a late bid.)
- [ ] Is your bid guarantee in the proper amount? (Usually 20% of total bid price.)
- [ ] If your bid guarantee is in the form of a bid bond, is the bond properly signed by both the bidder and surety and are all required seals affixed?
- [ ] Is the name in which you submitted the bid the same on your bid as on your bid bond?
- [ ] If required, have you entered a unit price for each bid item? (The solicitation will specifically state when this is necessary.)
- [ ] Are decimals in unit prices in the proper places? Are your figures legible?
- [ ] Are the extensions of your unit prices, and your total bid price correct?
- [ ] Are all erasures or corrections initialed by the person signing the bid?
- [ ] Have you restricted your bid by altering the provisions of the solicitation?
- [ ] Is the envelope containing your bid properly identified that it is a sealed bid and does it contain the correct solicitation number and bid opening time?
- [ ] Will your bid arrive on time? Late handcarried bids will not be considered. Late mailed bids may be considered if sent by Registered or Certified Mail, 5 days prior to bid opening; if late receipt was due to delay in mails, or if specific requirements have been met. (See paragraph pertaining to "Late Submissions, Modifications, and Withdrawals of Bids.")
- [ ] Telegraphic modifications to a bid: The District's capability to receive messages is limited and could become saturated when numerous bidders are trying to send modifications to their bids. It is the bidder's responsibility to insure that telegraphic modifications are received prior to the time established for bid opening. Telephonic verification of the receipt of a telegraphic bid modification cannot be provided. Late telegraphic modifications cannot be considered except under the conditions contained herein. See Instruction to Bidders, Para. 15 entitled, "Submission of Bid Amendments and Withdrawal," via telefax.

# ***NOTICE:***



**Please pay particular attention to the Representations and Certifications (Section K) Clause 52.0203-0008 (4008) "Requirement for Certificate of Procurement Integrity."**

**(Clause does not apply to projects under \$100,000)**

**FAILURE TO COMPLETE AND SIGN THIS CERTIFICATION WILL RENDER YOUR BID NONRESPONSIVE.**

SECTION K  
REPRESENTATIONS, CERTIFICATIONS AND  
OTHER STATEMENTS OF OFFERORS

NOTE: (CONSTRUCTION - IFB) THIS DOCUMENT IS TO BE EXECUTED AND  
SUBMITTED WITH YOUR BID.

REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF BIDDERS

IFB NO. DACA47-92-B-0045

PROJECT NAME/LOCATION: Landfill #5, Cell #3, Geocomposite/Soil Cap,  
Cannon AFB, Curry County, NM

BIDDER'S NAME AND ADDRESS

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Date: \_\_\_\_\_

The bidder makes the following representations and  
certifications as a part of the bid identified above: (Check  
appropriate boxes.)

CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that--

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory--

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above \_\_\_\_\_

(insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

CONTINGENT FEE REPRESENTATION AND AGREEMENT (APR 1984)

(a) Representation. The offeror represents that, except for full-time bona fide employees working solely for the offeror, the offeror--

[Note: The offeror must check the appropriate boxes. For interpretation of the representation, including the term "bona fide employee," see Subpart 3.4 of the Federal Acquisition Regulation.]

(1) /\_/ has, /\_/ has not employed or retained any person or company to solicit or obtain this contract; and

(2) /\_/ has, /\_/ has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(b) Agreement. The offeror agrees to provide information relating to the above Representation as requested by the Contracting Officer and, when subparagraph (a)(1) or (a)(2) is answered affirmatively, to promptly submit to the Contracting Officer--

(1) A completed Standard Form 119, Statement of Contingent or Other Fees, (SF 119); or

(2) A signed statement indicating that the SF 119 was previously submitted to the same contracting office, including the date and applicable solicitation or contract number, and representing that the prior SF 119 applies to this offer or quotation.

(End of provision)

(R 7-2002.1 1974 APR)

(R 1-1.505)

K.3 52.203-0011

CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL,

DACA47-92-B-0045

K-3

Disclosure of Lobbying Activities, to the Contracting Officer; and  
(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

K.4

REQUIREMENT FOR CERTIFICATE OF PROCUREMENT INTEGRITY (NOV 1990)  
FAR 52.203-8

(a) Definitions. The definitions at FAR 3.104-4 are hereby incorporated in this provision.

(b) Certifications. As required in paragraph (c) of this provision, the officer or employee responsible for this offer shall execute the following certification:

CERTIFICATE OF PROCUREMENT INTEGRITY

(1) I, \_\_\_\_\_ [Name of certifier], am the officer or employee responsible for the preparation of this offer and hereby certify that, to the best of my knowledge and belief, with the exception of any information described in this certificate, I have no information concerning a violation or possible violation of subsection 27(a), (b), (d), or (f) of the Office of Federal Procurement Policy Act, as amended (41.U.S.C. 423), (hereinafter referred to as "the Act"), as implemented in the FAR, occurring during the conduct of this procurement \_\_\_\_\_ (solicitation number).

(2) As required by subsection 27(e)(1)(B) of the Act, I further certify that, to the best of my knowledge and belief, each officer, employee, agent, representative, and consultant of \_\_\_\_\_ [Name of Offeror] who has participated personally and substantially in the preparation or submission of this offer has certified that he or she is familiar with, and will comply with, the requirements of subsection 27(a) of the Act, as implemented in the FAR, and will report immediately to me any information concerning a violation or possible violation of subsections 27(a),

(b), (d), or (f) of the Act, as implemented in the FAR, pertaining to this procurement.

(3) Violations or possible violations: (Continue on plain bond paper if necessary and label Certificate of Procurement Integrity (Continuation Sheet), ENTER NONE IF NONE EXIST)

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(4) I agree that, if awarded a contract under this solicitation, the certifications required by subsection 27(e)(1)(B) of the Act shall be maintained in accordance with paragraph (f) of this provision.

---

[Signature of the officer or employee  
responsible for the offer]

Date

---

[Typed name of the officer or employee responsible for the offer]

+ Subsections 27(a), (b), and (d) are effective on December 1, 1990. Subsection 27(f) is effective on June 1, 1991.

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER TITLE 18, UNITED STATES CODE, SECTION 1001.

(End of certification)

(c)(1) For procurements using sealed bidding procedures, the signed certifications shall be submitted by each bidder with the bid submission except for procurements using two-step sealed bidding procedure (see Subpart 14.5). For those procurements, the certifications shall be submitted with submission of the step two sealed bids. A certificate is not required for indefinite delivery contracts (see Subpart 16.5) unless the total estimated value of all orders eventually to be placed under the contract is expected to exceed \$100,000.

(2) For contracts and contract modifications which include options, a certificate is required when the aggregate value of the

contract or contract modification and all options (see 3.104-4(e)) exceeds \$100,000.

(3) FAILURE OF A BIDDER TO SUBMIT THE SIGNED CERTIFICATE WITH ITS BID SHALL RENDER THE BID NONRESPONSIVE.

(d) Pursuant to FAR 3.104-9(d), the Offeror may be requested to execute additional certifications at the request of the Government. Failure of an Offeror to submit the additional certifications shall cause its offer to be rejected.

(e) A certification containing a disclosure of a violation or possible violation will not necessarily result in the withholding of award under this solicitation. However, the Government, after evaluation of the disclosure, may cancel this procurement or take any other appropriate actions in the interests of the Government, such as disqualification of the Offeror.

(f) In making the certification in paragraph (2) of the certificate, the officer or employee of the competing contractor responsible for the offer may rely upon a one-time certification from each individual required to submit a certification to the competing contractor, supplemented by periodic training. These certifications shall be obtained at the earliest possible date after an individual required to certify begins employment or association with the contractor. If a contractor decides to rely on a certification executed prior to the suspension of section 27 (i.e., prior to December 1, 1989), the Contractor shall ensure that an individual who has so certified is notified that section 27 has been reinstated. These certifications shall be maintained by the Contractor for 6 years from the date a certifying employee's employment with the company ends or, for an agent, representative, or consultant, 6 years from the date such individual ceases to act on behalf of the Contractor.

(g) Certifications under paragraphs (b) and (d) of this provision are material representations of fact upon which reliance will be placed in awarding a contract.

(End of provision)

K.5 52.204-0003

TAXPAYER IDENTIFICATION (SEP 1989)

(a) Definitions.

"Common parent," as used in this solicitation provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of

which the offeror is a member.

"Corporate status," as used in this solicitation provision, means a designation as to whether the offeror is a corporate entity, an unincorporated entity (e.g., sole proprietorship or partnership), or a corporation providing medical and health care services.

"Taxpayer Identification Number (TIN)," as used in this solicitation provision, means the number required by the IRS to be used by the offeror in reporting income tax and other returns.

(b) The offeror is required to submit the information required in paragraphs (c) through (e) of this solicitation provision in order to comply with reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in 4.902(a), the failure or refusal by the offeror to furnish the information may result in a 20 percent reduction of payments otherwise due under the contract.

(c) Taxpayer Identification Number (TIN).

TIN: \_\_\_\_\_

TIN has been applied for.

TIN is not required because:

Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of a Federal, state, or local government;

Other. State basis. \_\_\_\_\_

(d) Corporate Status.

Corporation providing medical and health care services, or engaged in the billing and collecting of payments for such services;

Other corporate entity;

Not a corporate entity;

Sole proprietorship

Partnership

Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(e) Common Parent.

Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this clause.

Name and TIN of common parent:

Name \_\_\_\_\_

TIN \_\_\_\_\_

(End of provision)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (MAY 1989)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are / / are not / / presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have / / have not / /, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; and

(C) Are / / are not / / presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.

(ii) The Offeror has / / has not / /, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror

nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

K.7 52.209-7001

DISCLOSURE OF OWNERSHIP OR CONTROL BY A FOREIGN GOVERNMENT THAT SUPPORTS TERRORISM (DEC 1991)

(a) Definitions.

(1) "Significant interest," as used in this provision, means--

(i) Ownership of or beneficial interest in five percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding five percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of ten percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(2) "Government," as used in this provision, includes any agent or instrumentality of that government.

(b) Disclosure. The Offeror shall disclose any significant interest the government of each of the following countries has in the Offeror or a subsidiary of the Offeror. If the Offeror is a subsidiary, it shall also disclose any significant interest each government has in any firm that owns or controls the subsidiary. If none, leave blank.

Country	Significant interest
---------	----------------------

- (1) Cuba..... \_\_\_\_\_
- (2) Iran..... \_\_\_\_\_
- (3) Iraq..... \_\_\_\_\_
- (4) Libya..... \_\_\_\_\_
- (5) North Korea..... \_\_\_\_\_
- (6) Syria..... \_\_\_\_\_

(End of provision)

K.8 52.214-0002

TYPE OF BUSINESS ORGANIZATION--SEALED BIDDING (JUL 1987)

The bidder, by checking the applicable box, represents that--

(a) It operates as  a corporation incorporated under the laws of the State of \_\_\_\_\_,  an individual,  a partnership,  a nonprofit organization, or  a joint venture; or

(b) If the bidder is a foreign entity, it operates as  an individual,  a partnership,  a nonprofit organization,  a joint venture, or  a corporation, registered for business in \_\_\_\_\_ (country).

(End of provision)

K.9 52.219-0001

SMALL BUSINESS CONCERN REPRESENTATION (JAN 1991)

(a) Representation. The offeror represents and certifies as part of its offer that it  is,  is not a small business concern and that  all,  not all end items to be furnished will be manufactured or produced by a small business concern in the United States, its territories or possessions, Puerto Rico, or the Trust Territory of the Pacific Islands.

(b) Definition.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in this solicitation.

(c) Notice. Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to sections 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and
- (3) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

K.10 52.219-0003

WOMEN-OWNED SMALL BUSINESS REPRESENTATION (APR 1984)

(a) Representation. The offeror represents that it /\_/ is, /\_/ is not a women-owned small business concern.

(b) Definitions.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

"Women-owned," as used in this provision, means a small business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(End of provision)

(R FPR Temp. Reg. 48 1978 DEC)

K.11 52.219-0019

SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (JUL 1991)

(a) Definition.

"Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the standard industrial classification code assigned to a contracting opportunity.

(b) (Complete only if the Offeror has certified itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.)

The Offeror represents and certifies as part of its offer that it /\_/ is, /\_/ is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

---

No. of Employees	Avg. Annual Gross Revenues
------------------	----------------------------

___ 50 or fewer	___ \$1 million or less
___ 51-100	___ \$1,000,001-\$2 million
___ 101-250	___ \$2,000,001-\$3.5 million
___ 251-500	___ \$3,500,001-\$5 million
___ 501-750	___ \$5,000,001-\$10 million
___ 751-1,000	___ \$10,000,001-\$17 million
___ Over 1,000	___ Over \$17 million

(End of provision)

K.12 52.219-0021

**SMALL BUSINESS SIZE REPRESENTATION FOR TARGETED INDUSTRY CATEGORIES UNDER THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (JUL 1991)**

(Complete only if the Offeror has certified itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.)

Offeror represents and certifies as follows:

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees	Avg. Annual Gross Revenues
___ 50 or fewer	___ \$1 million or less
___ 51-100	___ \$1,000,001-\$2 million
___ 101-250	___ \$2,000,001-\$3.5 million
___ 251-500	___ \$3,500,001-\$5 million
___ 501-750	___ \$5,000,001-\$10 million
___ 751-1,000	___ \$10,000,001-\$17 million
___ Over 1,000	___ Over \$17 million

(End of provision)

K.13 52.219-7000

**SMALL DISADVANTAGED BUSINESS CONCERN REPRESENTATION (DoD CONTRACTS) (DEC 1991)**

(a) Definition. "Small disadvantaged business concern," as used in this provision, means a small business concern, owned and controlled by

individuals who are both socially and economically disadvantaged, as defined by the Small Business Administration at 13 CFR Part 124, the majority of earnings of which directly accrue to such individuals. This term also means a small business concern owned and controlled by an economically disadvantaged Indian tribe or Native Hawaiian organization which meets the requirements of 13 CFR 124.112 or 13 CFR 124.113, respectively. In general, 13 CFR Part 124 describes a small disadvantaged business concern as a small business concern--

(1) Which is at least 51 percent unconditionally owned by one or more socially and economically disadvantaged individuals; or

(2) In the case of any publicly owned business, at least 51 percent of the voting stock is unconditionally owned by one or more socially and economically disadvantaged individuals; and

(3) Whose management and daily business operations are controlled by one or more such individuals.

(b) Representations. Check the category in which your ownership falls--

Subcontinent Asian (Asian-Indian) American (U.S. citizen with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, or Nepal)

Asian-Pacific American (U.S. citizen with origins from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, U.S. Trust Territory of the Pacific Islands (Republic of Palau), the Northern Mariana Islands, Laos, Kampuchea (Cambodia), Taiwan, Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Republic of the Marshall Islands, or the Federated States of Micronesia)

Black American (U.S. citizen)

Hispanic American (U.S. citizen with origins from South America, Central America, Mexico, Cuba, the Dominican Republic, Puerto Rico, Spain, or Portugal)

Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians, including Indian tribes or Native Hawaiian organizations)

Individual/concern, other than one of the preceding, currently certified for participation in the Minority Small Business and Capital Ownership Development Program under Section 8(a) of the Small Business Act

Other

(c) Certifications. Complete the following--

(1) The offeror is  is not  a small disadvantaged business concern.

(2) The Small Business Administration (SBA) has  has not  made a determination concerning the offeror's status as a small disadvantaged business concern. If the SBA has made a determination, the date of the determination was \_\_\_\_\_ and the offeror--

Was found by SBA to be socially and economically disadvantaged and no circumstances have changed to vary that determination.

\_\_\_\_\_ Was found by SBA not to be socially and economically disadvantaged but circumstances which caused the determination have changed.

(d) Notification. Notify the Contracting Officer before contract award if your status as a small disadvantaged business concern changes.

(e) Penalties and Remedies. Anyone who misrepresents the status of a concern as a small disadvantaged business for the purpose of securing a contract or subcontract shall--

- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and
- (3) Be ineligible for participation in programs conducted under authority of the Small Business Act.

(End of provision)

K.14 52.222-0021

CERTIFICATION OF NONSEGREGATED FACILITIES (APR 1984)

(a) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(b) By the submission of this offer, the offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

(c) The offeror further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will--

- (1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;
- (2) Retain the certifications in the files; and
- (3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES.

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will

be subject to the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

(End of provision)

(R 7-2003.14(b)(1)(A) 1970 AUG)

(R 1-12.803-10(d))

K.15 52.222-0022

PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (APR 1984)

The offeror represents that--

(a) It  has,  has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;

(b) It  has,  has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

(R 7-2003.14(b)(1)(B) 1973 APR)

K.16 52.223-0001

CLEAN AIR AND WATER CERTIFICATION (APR 1984)

The Offeror certifies that--

(a) Any facility to be used in the performance of this proposed contract is  is not  listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

(b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the EPA, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

(End of provision)

(AV 7-2003.71 1977 JUN)

(AV 1-1.2302-1)

K.17 52.223-0005

CERTIFICATION REGARDING A DRUG-FREE WORKPLACE (JUL 1990)

(a) Definitions. As used in this provision,

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812)

and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) By submission of its offer, the offeror, if other than an individual, who is making an offer that equals or exceeds \$25,000, certifies and agrees that, with respect to all employees of the offeror to be employed under a contract resulting from this solicitation, it will--no later than 30 calendar days after contract award (unless a longer period is agreed to in writing), for contracts of 30 calendar days or more performance duration; or as soon as possible for contracts of less than 30 calendar days performance duration, but in any case, by a date prior to when performance is expected to be completed--

(1) Publish a statement notifying such employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

- (i) The dangers of drug abuse in the workplace;
- (ii) The Contractor's policy of maintaining a drug-free workplace;
- (iii) Any available drug counseling, rehabilitation, and employee assistance programs; and
- (iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this provision;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this provision, that as a condition of continued employment on the contract resulting from this solicitation, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 calendar days after such conviction;

(5) Notify the Contracting Officer in writing within 10 calendar days after receiving notice under subdivision (b)(4)(ii) of this provision, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee; and

(6) Within 30 calendar days after receiving notice under subdivision (b)(4)(ii) of this provision of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Take appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this provision.

(c) By submission of its offer, the offeror, if an individual who is making an offer of any dollar value, certifies and agrees that the offeror will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in the performance of the contract resulting from this solicitation.

(d) Failure of the offeror to provide the certification required by paragraphs (b) or (c) of this provision, renders the offeror unqualified and ineligible for award. (See FAR 9.104-1(g) and 19.602-1(a)(2)(i).)

(e) In addition to other remedies available to the Government, the certification in paragraphs (b) or (c) of this provision concerns a matter within the jurisdiction of an agency of the United States and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

(End of provision)

K.18 52.247-7022

REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (DEC 1991)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this clause whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined

in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it--

\_\_\_\_\_ Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

\_\_\_\_\_ Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

END OF SECTION K

## INSTRUCTIONS TO BIDDERS

Construction Sealed Bid DACA47-92-B-0045

### 1. SOLICITATION DEFINITIONS--SEALED BIDDING (JUL 1987) FAR 52.214-1

"Offer" means "bid" in sealed bidding.

"Solicitation" means an invitation for bids in sealed bidding.

"Government" means United States Government.

(End of provision)

### 2. AMENDMENTS TO INVITATIONS FOR BIDS (DEC 1989) FAR 52.214-3

a. If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

b. Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on the form for submitting a bid, or (3) by letter or telegram, or (4) by facsimile, if facsimile bids are authorized in the solicitation. The Government must receive the acknowledgment by the time and at the place specified for receipt of bids.

(End of provision)

### 3. FALSE STATEMENTS IN BIDS (APR 1984) FAR 52.214-4

Bidders must provide full, accurate, and complete information as required by this solicitation and its attachments. The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

(End of provision)

### 4. SUBMISSION OF BIDS (DEC 1989) FAR 52.214-5

(a) Bids and bid modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) (1) addressed to the office specified in the solicitation and (2) showing the time specified for receipt, the solicitation number, and the name and address of the bidder.

(b) Telegraphic bids will not be considered unless authorized by the solicitation; however, bids may be modified or withdrawn by written or telegraphic notice.

(c) Facsimile bids, modifications, or withdrawals, will not be considered unless authorized by the solicitation.

(End of provision)

### 5. EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984) FAR 52.214-6

Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(End of provision)

INSTRUCTION TO BIDDERS (Continued)

6. LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS  
(DEC 1989) FAR 52.214-7

a. Any bid received at the office designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it--

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of bids (e.g., a bid submitted in response to a solicitation requiring receipt of bids by the 20th of the month must have been mailed by the 15th);

(2) Was sent by mail or, if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation; or

(3) Was sent by U.S. Postal Service Express Mail Next Day Service-Post Office To Addressee, not later than 5:00 P.M. at the place of mailing two working days prior to the date specified for receipts of bids. The term "working days" excludes weekends and U.S. Federal holidays.

b. Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.

c. The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the bid, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, bidders should request the postal clerk to place a legible hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

d. The only acceptable evidence to establish the time of receipt at the Government installation is the time/date stamp of that installation on the bid wrapper or other documentary evidence of receipt maintained by the installation.

e. The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent by U.S. Postal Service Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on the envelope or wrapper and on the original receipt from the the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, bidders should request the postal clerk to place a legible hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

INSTRUCTION TO BIDDERS (Continued)

f. Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

g. Bids may be withdrawn by written notice or telegram (including mailgram) received at any time before the exact time set for receipt of bids. If the solicitation authorizes facsimile bids, bids may be withdrawn via facsimile received at any time before the exact time set for receipt of bids, subject to the conditions specified in the provision entitled "Facsimile Bids." A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.  
(End of provision)

7. PREPARATION OF BIDS--CONSTRUCTION (APR 1984) FAR 52.214-18

a. Bids must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a bid must initial each erasure or change appearing on any bid form.

b. The bid form may require bidders to submit bid prices for one or more items on various bases, including--

- (1) Lump sum bidding;
- (2) Alternate prices;
- (3) Units of construction; or
- (4) Any combination of subparagraphs (1) through (3) above.

c. If the solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

d. Alternate bids will not be considered unless this solicitation authorizes their submission.

(End of provision)

8. CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION (FEB 1986)  
FAR 52.214-19

a. The Government will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the Government, considering only price and the price-related factors specified elsewhere in the solicitation.

b. The Government may reject any or all bids, and waive informalities or minor irregularities in bids received.

c. The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the bid.

(End of provision)

INSTRUCTION TO BIDDERS (Continued)

9. TYPE OF CONTRACT (APR 1984) FAR 52.216-1

The Government contemplates award of a firm-fixed price contract resulting from this solicitation.  
(End of provision)

10. CONTRACTOR ESTABLISHMENT CODE (AUG 1989) FAR 52.204-4

In the block with its name and address, the offeror should supply the Contractor Establishment Code applicable to that name and address, if known, to the offeror. The number should be preceded by "CEC:" Offerors should take care to report the correct CEC and not a similar number assigned to the Offeror in a different system.

The CEC is a 9-digit code assigned to a contractor establishment that contracts with a Federal executive agency. The CEC system is a contractor identification coding system which is currently the Dun and Bradstreet Data Universal Numbering System (DUNS). The CEC system is distinct from the Federal Taxpayer Identification Number (TIN) system.

The Government will obtain a Contractor Establishment Code for any awardee that does not have or does not know its CEC.  
(End of provision)

11. COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING  
(DEC 1991) DOD FAR SUPPLEMENT 252.204-7001

(a) The Offeror is requested to enter its CAGE code on its offer in the block with its name and address. The CAGE code entered must be for that name and address. Enter CAGE before the number.

(b) If the offeror does not have a CAGE codes, it may ask the Contracting Officer to request one from the Defense Logistics Service Center (DLSC). The Contract Officer will--

(1) Ask the Contractor to complete section B of a DD Form 2051, Request for Assignment of a Commercial and Government Entity (CAGE) Code;

(2) Complete section A and forward the form to DLSC; and

(3) Notify the Contractor of its assigned CAGE code.

(c) Do not delay submission of the offer pending receipt of a CAGE code.

(End of provision)

12. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (APR 1984) FAR 52.222-23

a. The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

b. The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

INSTRUCTION TO BIDDERS (Continued)

Goals for minority participation for each trade	Goals for female participation for each trade
11.0%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

c. The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

d. The Contractor shall provide written notification to the Director, Office of Federal Contract Compliance Programs, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the--

- (1) Name, address, and telephone number of the subcontractor;
  - (i) Employer identification number of the subcontractor;
- (2) Estimated dollar amount of the subcontract;
- (3) Estimated starting and completion dates of the subcontract; and
- (4) Geographical area in which the subcontract is to be performed.

e. As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is: Curry County, Cannon AFB, New Mexico.

(End of provision)

INSTRUCTION TO BIDDERS (Continued)

13. NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (MAY 1986)  
FAR 52.212-7

Any contract awarded as a result of this solicitation will be a / / DX rated order; /X/ DO rated order certified for national defense use under the Defense Priorities and Allocations System (DPAS) (15 CFR 350), and the Contractor will be required to follow all the requirements of this regulation.

(End of provision)

14. SERVICE OF PROTEST (NOV 1988) FAR 52.233-2

a. Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO) or the General Services Administration Board of Contract Appeals (GSBCA), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from Mr. James D. Van Nest, Chief, Contracting Division, U.S. Army Corps of Engineers, 517 Gold Ave. S.W., Room 8017, Albuquerque, New Mexico.

b. The copy of any protest shall be received in the office designated above on the same day a protest is filed with the GSBCA or within one day of filing a protest with the GAO.

(End of provision)

15. SUBMISSION OF BID AMENDMENTS AND WITHDRAWALS

Reference Clause, Submission of Bids (DEC 1989) FAR 52.214-5. Telegraphic bids will not be considered. However, bids may be modified or withdrawn by written, telegraphic or telefacsimile notice if received prior to the time specified for receipt of bids. Telecopied bid withdrawals or modifications must be signed by the bidder. The telefacsimile number for the Albuquerque District is (505) 766-2770.

16. The Contractor should be aware that NMGR tax is applicable to this contract and the rate may vary for each county and city. The Gross Receipts Tax Rate is available from the New Mexico Taxation and Revenue Department (505) 827-0789.

17. SUBMISSION OF BID BONDS

Reference Contract Clauses-Construction, FAR 52.228-1, Bid Guarantee (APR 1984) for instructions for bid bond submission.

18. PARTNERING

In order to most effectively accomplish this contract, the Government proposes to form a cohesive partnership with the Contractor and its subcontractors. This partnership would strive to draw on the strength of each organization in an effort to achieve a quality project done right the first time, within budget and on schedule. This partnership would be bilateral in make-up and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price.

INSTRUCTION TO BIDDERS (Continued)

19. CONTRACTING OFFICER AUTHORITY

The Contracting Officer who signs this contract will be the primary Contracting Officer for this contract. However, any Contracting Officer assigned to the Albuquerque District, contracting within his or her authority, may take formal action on this contract when a contract action needs to be taken and the primary Contracting Officer is unavailable.

**SPECIAL NOTE:** The Certification of Procurement Integrity Clauses in the Representations, Certifications, and Other Statements of Bidders must be completed, signed, dated and submitted with your bid or the bid will be considered nonresponsive.

SPECIAL INSTRUCTIONS TO BIDDERS RELATING TO THIS SOLICITATION  
(DACA47-92-B-0045)

1. ESTIMATED CONSTRUCTION COST (FAR 36.204)

The estimated cost of the proposed construction is between \$250,000 to \$500,000.

2. PERFORMANCE OF WORK BY CONTRACTOR (FAR 36.501)

Unless he has submitted such description with his bid, the successful bidder must furnish the Contracting Officer within 20 days after award, a description of the work which he intends to perform with his own organization (e.g., earthwork, paving, brickwork, or roofing), the percentage of the total work this represents, and the estimated cost thereof.

3. SITE VISIT

Bidder's attention is directed to the paragraph entitled SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK clause in the Contract Clauses. A tour of the jobsite for prospective bidders will be held on 8 September 1992 at 10:00 a.m. Contractors wishing to make this site visit should meet at the Cannon AFB Resident Office. For further information please contact Karen Durham-Aguilera at 505-784-3645.

4. AVAILABILITY OF PLANS AND SPECIFICATIONS

Sets of drawings, half size only, with specifications will be furnished upon receipt of payment at \$20.00 per set. No refund of the payment for drawings will be made and the drawings need not be returned to the District Engineer. Payments may be made by cash, company check, certified check, cashier's check or money order delivered to the Contracting Division, U.S. Army Corps of Engineers, P.O. Box 1580, Albuquerque NM 87103-1580. Checks and money orders are to be made payable to the F&A Officer, USAED - Fort Worth. If the project is canceled or no award is made under the solicitation, refund of the payment for the plans and specifications will be made upon request after receipt of plans and specifications at the issuing office.

5. AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) (SEP 1990) FAR 52.210-2

Single copies of specifications cited in this solicitation may be obtained by submitting a written request to the supply point listed below. The request must contain the title of the specification, its number, date, applicable amendment(s), and the solicitation or contract number. A telephone order entry system is available with the use of a touch tone telephone. A Customer Number is required to use this system and may be obtained by written request to the address listed below or by telephone (215-697-2179). In case of urgency, telegraphic requests are acceptable. Voluntary standards, which are not available to offerors and contractors from Government sources, may be obtained from the organization responsible for their preparation, maintenance, or publication.

SPECIAL INSTRUCTIONS TO BIDDERS RELATING TO THIS SOLICITATION (cont)

Standardization Document  
Order Desk, Building 4, Section D  
700 Robbins Avenue  
Philadelphia, PA 19111-5094

Telex Number..... 834295  
Western Union Number.... 710-670-1685  
Telephone Number..... (215) 697-3321 Express shipment pickup)  
Telephone Order Entry System (TOES) Numbers.....215-697-1187 through  
and including 215-697-1197

(End of provision)

6. BONDS (FAR 28.102-2)

Bonds listed below are required when the amount exceeds \$25,000.

a. Bid Bonds. Each bidder shall submit with his bid a Bid Bond (Standard Form 24) with good and sufficient surety or sureties acceptable to the Government, or other security as provided in Paragraph 16 of Instructions to Bidders in the form of twenty (20) percent of the bid price or Three Million Dollars (\$3,000,000) whichever is lesser. The bid bond penalty may be expressed in terms of a percentage of the bid price or may be expressed in dollars and cents.

b. Performance and Payment Bonds. Within ten (10) days after the prescribed forms are presented to the bidder, two bonds, each with good and sufficient surety or sureties acceptable to the Government, shall be executed and furnished to the Contracting Officer. Performance bond shall be accomplished on Standard Form 25, and Payment bond on Standard Form 25A. The penal sum of such bonds will be as follows:

(1) Performance Bond. The penal sum of the performance bond shall equal one hundred percent (100%) of the contract price.

(2) Payment Bonds

(a) When the contract price is \$1,000,000 or less, the penal sum will be fifty percent (50%) of the contract price.

(b) When the contract price is in excess of \$1,000,000 but not more than \$5,000,000, the penal sum shall be forty percent (40%) of the contract price.

(c) When the contract price is more than \$5,000,000, the penal sum shall be \$2,500,000.

Any bonds furnished will be furnished by the Contractor to the Government prior to commencement of contract performance.

The performance bond shall specifically provide for payment to the Government the full amount of the taxes imposed by the Government which are collected, deducted, or withheld from wages paid by the principal in carrying out the construction contract with respect to which this bond is furnished.

SPECIAL INSTRUCTIONS TO BIDDERS RELATING TO THIS SOLICITATION (cont)

FAILURE TO INCLUDE BID BOND OR OTHER BID SECURITY ON TIME MAY BE CAUSE FOR REJECTION OF THE BID AS NONRESPONSIVE. LATE BOND OR OTHER SECURITY WILL BE TREATED IN THE SAME MANNER AS LATE BIDS. (SEE PARAGRAPH 6 OF INSTRUCTIONS TO BIDDERS.)

7. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

Whenever a contract or modification of contract price is negotiated, the Contractor's cost proposals for equipment ownership and operating expenses shall be determined in accordance with the requirements of the paragraph entitled EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE, contained in the Special Clauses section of the specifications. A copy of EP 1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule," Volume 6 is available for review in the Office of the District Engineer, Room 8017, or at the Albuquerque District Office, 517 Gold Avenue, SW, Albuquerque, New Mexico. This publication can be obtained at a cost of \$11.00 per copy, by ordering Stock No. 008-022-00259-6 from U.S. Government Printing Office, Document Warehouse, 8160 Cherry Lane, Laurel, MD 20707.

8. GENERAL SAFETY REQUIREMENTS (April 1981) EM 385-1-1

The Contractor on any contract resulting from this Invitation for Bids will be required to comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation. The Contractor must also comply with Occupational Safety and Health Act (OSHA) standards. OSHA standards are subject to change. It is the Contractor's responsibility to maintain familiarity with OSHA standards which are current.

9. AMENDMENTS OF INVITATION FOR BIDS (FAR 14.208)

The right is reserved, as the interest of the Government may require, to revise or amend the specifications or drawings or both prior to the date set for opening bids. Such revisions and amendments, if any, will be announced by an amendment or amendments to this Invitations for Bids. If the revisions and amendments are of a nature which require material changes in quantities, or price bid, or both, the date set for opening bids may be postponed by such number of days as in the opinion of the issuing officer will enable bidders to revise their bids. In such cases, the amendment will include an announcement of the new date for opening bids.

10. TECHNICAL INFORMATION

For technical information regarding plans and specifications call Blaine Kemsley. Collect calls are not accepted. (505) 766-8295.

11. SIC CODE AND SMALL BUSINESS SIZE STANDARD (JAN 1991)  
FAR 52.219-22

(a) The standard industrial classification (SIC) code for this acquisition is 1794.

(b)(1) The small business size standard is: The average annual receipts of the concern and its affiliates for the preceding three fiscal years must not exceed \$7 million.

SPECIAL INSTRUCTIONS TO BIDDERS RELATING TO THIS SOLICITATION (cont)

(2) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(End of provision)

12. Each bidder shall, upon request of the Contracting Officer, furnish a list of the plant available to the bidder and proposed for use on the work.

13. PRE-AWARD INFORMATION

Each bidder shall, upon request of the contracting officer, furnish a statement of whether he is now or ever has been engaged in any work similar to that covered by the specifications herein, the dollar value thereof, the year in which such work was performed, and the manner of its execution, and giving such other information as will tend to show the bidder's ability to prosecute the required work. The "such other information" referred to above shall include but is not limited to the following:

(a) The name and address of the office or firm under which such similar work was performed.

(b) A list of key personnel available for the instant project and their qualifications.

(c) A copy of bidder's latest financial statement, including the names of banks or other financial institutions with which the bidder conducts business. If the financial statement is more than 60 days old, a certificate should be attached stating that the financial condition is substantially the same, or if not the same, the changes that have taken place. Such statement will be treated as confidential.

(d) A list of present commitments, including the dollar value thereof, and name of office under which the work is being performed.

14. SUBCONTRACTING PLAN

In accordance with Contract Clauses Small Business and Small Disadvantaged Business Subcontracting Plan - Alternate I, and DoD Clause 52.219-7003, if a plan is required to be submitted, the bidder shall take into consideration when preparing the required subcontracting plan, that only those subcontracts which are to be awarded directly by the prime contractor to a small and small disadvantaged firm can be included in the plan. Subcontracts to be awarded by a large business subcontractor subject to the flow-down provisions of the clause shall be reported by the subcontractor on its SF 294 and SF 295.

NOTICE: In accordance with contract clauses shown in the above paragraph, notice is hereby given that, if applicable, a subcontracting plan must be submitted by the apparent low bidder within five business days from date of bid opening. Failure to submit an acceptable subcontracting plan shall make the bidder ineligible for the award of a contract.

SECTION I  
CONTRACT CLAUSES

- I.1 52.252-0002 CLAUSES INCORPORATED BY REFERENCE (JUN 1988)
- This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.
- (End of clause)
- I.2 52.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)  
(Reference 01.602-70)
- I.3 FAR 52.202-1 DEFINITIONS (APR 1984)--ALTERNATE I--(APR 1984) (DEVIATION) EFARS 52.101(a) and 52.105/90(a)  
(Reference )
- I.4 52.203-0001 OFFICIALS NOT TO BENEFIT (APR 1984)  
(Reference 3.102-2)
- I.5 52.203-0003 GRATUITIES (APR 1984)  
(Reference 3.202)
- I.6 52.203-0005 COVENANT AGAINST CONTINGENT FEES (APR 1984)  
(Reference 3.404(c))
- I.7 52.203-0007 ANTI-KICKBACK PROCEDURES (OCT 1988)  
(Reference 3.502-3)
- I.8 52.203-0009 REQUIREMENT FOR CERTIFICATE OF PROCUREMENT INTEGRITY--MODIFICATION (NOV 1990)  
(Reference 3.104-10(b))
- I.9 52.203-0010 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (SEP 1990)  
(Reference 3.104-10(c))
- I.10 52.203-0012 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JAN 1990)  
(Reference 3.808(b))
- I.11 52.203-7000 STATUTORY PROHIBITION ON COMPENSATION TO FORMER DEPARTMENT OF DEFENSE EMPLOYEES (DEC 1991)  
(Reference 03.170-4)
- I.12 52.203-7001 SPECIAL PROHIBITION ON EMPLOYMENT (DEC 1991)  
(Reference 03.570-5)
- I.13 52.209-0006 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUN 1991)  
(Reference 9.409(b))
- I.14 52.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ON-SITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (DEC 1991)  
(Reference 09.103-70)
- I.15 52.212-0008 DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS (SEP 1990)  
(Reference 12.304(b))
- I.16 52.212-0011 VARIATION IN ESTIMATED QUANTITY (APR 1984)  
(Reference 12.403(c))

I.17 52.212-0012 SUSPENSION OF WORK (APR 1984)  
(Reference 12.505(a))

I.18 52.214-0026 AUDIT--SEALED BIDDING (APR 1985)  
(Reference 14.201-7(a))

I.19 52.214-0027 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS--  
SEALED BIDDING (DEC 1991)  
(Reference 14.201-7(b))

I.20 52.219-0008 UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS  
CONCERNS (FEB 1990)  
(Reference 19.708(a))

I.21 52.219-0013 UTILIZATION OF WOMEN-OWNED SMALL BUSINESSES (AUG 1986)  
(Reference 19.902)

I.22 52.220-0003 UTILIZATION OF LABOR SURPLUS AREA CONCERNS (APR 1984)  
(Reference 20.302(a))

I.23 52.222-0001 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (APR 1984)  
(Reference 22.103-5(a))

I.24 52.222-0003 CONVICT LABOR (APR 1984)  
(Reference 22.202)

I.25 52.222-0004 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION  
(MAR 1986)  
(Reference 22.305)

I.26 52.222-0006 DAVIS-BACON ACT (FEB 1988)  
(Reference 22.407(a))

I.27 52.222-0007 WITHHOLDING OF FUNDS (FEB 1988)  
(Reference 22.407(a))

I.28 52.222-0008 PAYROLLS AND BASIC RECORDS (FEB 1988)  
(Reference 22.407(a))

I.29 52.222-0009 APPRENTICES AND TRAINEES (FEB 1988)  
(Reference 22.407(a))

I.30 52.222-0010 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)  
(Reference 22.407(a))

I.31 52.222-0011 SUBCONTRACTS (LABOR STANDARDS) (FEB 1988)  
(Reference 22.407(a))

I.32 52.222-0012 CONTRACT TERMINATION--DEBARMENT (FEB 1988)  
(Reference 22.407(a))

I.33 52.222-0013 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)  
(Reference 22.407(a))

I.34 52.222-0014 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)  
(Reference 22.407(a))

I.35 52.222-0015 CERTIFICATION OF ELIGIBILITY (FEB 1988)  
(Reference 22.407(a))

I.36 52.222-0018 NOTIFICATION OF EMPLOYEE RIGHTS CONCERNING PAYMENT OF UNION DUES OR FEES  
(MAY 1992)  
(Reference )

I.37 52.222-0026 EQUAL OPPORTUNITY (APR 1984)  
 (Reference 22.810(e))  
 I.38 52.222-0027 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (APR 1984)  
 (Reference 22.810(f))  
 I.39 52.222-0035 AFFIRMATIVE ACTION FOR SPECIAL DISABLED AND VIETNAM ERA VETERANS  
 (APR 1984)  
 (Reference 22.1308)  
 I.40 52.222-0036 AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS (APR 1984)  
 (Reference 22.1408)  
 I.41 52.222-0037 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS AND VETERANS OF THE  
 VIETNAM ERA (JAN 1988)  
 (Reference 22.1308(b))  
 I.42 52.223-0002 CLEAN AIR AND WATER (APR 1984)  
 (Reference 23.105(b))  
 I.43 52.223-0006 DRUG-FREE WORKPLACE (JUL 1990)  
 (Reference 23.505(b))  
 I.44 52.225-0005 BUY AMERICAN ACT--CONSTRUCTION MATERIALS (MAY 1992)  
 (Reference 25.205)  
 I.45 52.227-0001 AUTHORIZATION AND CONSENT (APR 1984)  
 (Reference 27.201-2(a))  
 I.46 52.227-0002 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT  
 (APR 1984)  
 (Reference 27.202-2)  
 I.47 52.227-0004 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)  
 (Reference 27.203-5)  
 I.48 52.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)  
 (Reference 27.405-78(b))  
 I.49 52.228-0001 BID GUARANTEE (APR 1984)  
 (Reference 28.101-3(b))  
 I.50 52.228-0002 ADDITIONAL BOND SECURITY (APR 1984)  
 (Reference 28.106-4)  
 I.51 52.228-0005 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (SEP 1989)  
 (Reference 28.310)  
 I.52 52.228-0011 PLEDGES OF ASSETS (FEB 1990)  
 (Reference 28.203-6)  
 I.53 52.229-0003 FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)  
 (Reference 29.401-3)  
 I.54 52.229-0005 TAXES--CONTRACTS PERFORMED IN U.S. POSSESSIONS OR PUERTO RICO (APR  
 1984)  
 (Reference 29.401-5)  
 I.55 52.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)  
 (Reference 31.100-70)  
 I.56 52.232-0005 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (APR 1989)  
 (Reference 32.111(a)(5))

1.57 52.232-0017 INTEREST (JAN 1991)  
 (Reference 32.617(a)&())  
 1.58 52.232-0023 ASSIGNMENT OF CLAIMS (JAN 1986)  
 (Reference 32.806(a)(1))  
 1.59 52.232-0027 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (APR 1989)  
 (Reference 32.908(b))  
 1.60 52.232-7006 REDUCTION, OR SUSPENSION OF CONTRACT PAYMENTS UPON FINDING OF FRAUD (JAN  
 1992)  
 (Reference 32.111-70)  
 1.61 52.233-0001 DISPUTES (DEC 1991)  
 (Reference 33.215)  
 1.62 52.233-0003 PROTEST AFTER AWARD (AUG 1989)  
 (Reference 33.106(b))  
 1.63 52.233-7000 CERTIFICATION OF CLAIMS AND REQUESTS FOR ADJUSTMENT OR RELIEF (DEC 1991)  
 (Reference 33.7001)  
 1.64 52.236-0002 DIFFERING SITE CONDITIONS (APR 1984)  
 (Reference 36.502)  
 1.65 52.236-0003 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)  
 (Reference 36.503)  
 1.66 52.236-0005 MATERIAL AND WORKMANSHIP (APR 1984)  
 (Reference 36.505)  
 1.67 52.236-0006 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)  
 (Reference 36.506)  
 1.68 52.236-0007 PERMITS AND RESPONSIBILITIES (NOV 1991)  
 (Reference 36.507)  
 1.69 52.236-0008 OTHER CONTRACTS (APR 1984)  
 (Reference 36.508)  
 1.70 52.236-0009 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND  
 IMPROVEMENTS (APR 1984)  
 (Reference 36.509)  
 1.71 52.236-0010 OPERATIONS AND STORAGE AREAS (APR 1984)  
 (Reference 36.510)  
 1.72 52.236-0011 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)  
 (Reference 36.511)  
 1.73 52.236-0012 CLEANING UP (APR 1984)  
 (Reference 36.512)  
 1.74 52.236-0013 ACCIDENT PREVENTION (NOV 1991)  
 (Reference 36.513)  
 1.75 52.236-0015 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)  
 (Reference 36.515)  
 1.76 52.236-0017 LAYOUT OF WORK (APR 1984)  
 (Reference 36.517)  
 1.77 52.236-0021 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (APR 1984)  
 (Reference 36.520)

I.78 52.236-7000 MODIFICATION PROPOSALS--PRICE BREAKDOWN (DEC 1991)  
 (Reference 36.570(a))  
 I.79 52.242-0013 BANKRUPTCY (APR 1991)  
 (Reference 42.903)  
 I.80 52.243-0004 CHANGES (AUG 1987)  
 (Reference 43.205(d))  
 I.81 52.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)  
 (Reference 43.205-71)  
 I.82 52.245-0002 GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (DEC 1989)  
 (Reference 45.106(b)(1))  
 I.83 52.246-0012 INSPECTION OF CONSTRUCTION (JUL 1986)  
 (Reference 46.312)  
 I.84 52.247-7006 REMOVAL OF CONTRACTOR'S EMPLOYEES (DEC 1991)  
 (Reference 47.270-7(g))  
 I.85 52.248-0003 I VALUE ENGINEERING--CONSTRUCTION (MAR 1989)--ALTERNATE I (APR 1984)  
 (Reference 48.202)  
 I.86 52.249-0002 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (APR 1984)  
 (Reference 49.502(b)(1))  
 I.87 52.249-0010 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)  
 (Reference 49.504(c)(1))  
 I.88 52.252-0006 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)  
 (Reference 52.107(f))  
 I.89 CONTRACTING OFFICER AUTHORITY  
 (Reference )  
 I.90 DFARS 252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

- (1) "Employee in a sensitive position" as used in this clause, means an employe who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security, health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.
- (2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of Title 21 of the United States Code, the possession of which is unlawful under Chapter 13 of the Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for

achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) The Contractor programs shall include the following or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, the efficient use of Contractor resources, and the risks to the health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employee has been involved in an accident or unsafe practice;

- (C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;
  - (D) As part of a voluntary employee drug testing program.
- (iii) The Contractor may establish a program to test applicants for employment for illegal drug use.
- (iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2.1 of Subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988)), issued by the Department of Health and Human Services.
- (d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such time as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.
- (e) The provisions of this clause pertaining to drug testing programs shall not apply to the extent they are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees that those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of Clause)

I.91

DFAR 252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUNE 1992)

(A) DEFINITIONS.

As used in this clause--

"Foreign Person" mean any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50

U.S.C. APP. SEC 2415).

"United States Person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concern, as determined under regulations of the President.

(B) CERTIFICATION.

By submitting this offer, the offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab Countries, which 50 U.S.C. APP. SEC 2407(A) prohibits a United States person from taking.

(END OF CLAUSE)

I.92 52.247-7023

TRANSPORTATION OF SUPPLIES BY SEA (DEC 1991)

(a) Definitions. As used in this clause--

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense (DoD)" means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime Contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD

contract number or a military destination.

(ii) Supplies includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b) The Contractor shall employ U.S.-flag vessels in the transportation by sea of any supplies to be furnished in the performance of this contract. The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that--

- (1) U.S.-flag vessels are not available for timely shipment;
- (2) The freight charges are inordinately excessive or unreasonable; or
- (3) Freight charges are higher than charges to private persons for transportation of like goods.

(c) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum--

- (1) Type, weight, and cube of cargo;
- (2) Required shipping date;
- (3) Special handling and discharge requirements;
- (4) Loading and discharge points;
- (5) Name of shipper and consignee;
- (6) Prime contract number; and
- (7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(d) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information--

- (1) Prime contract number;
- (2) Name of vessel;
- (3) Vessel flag of registry;
- (4) Date of loading;
- (5) Port of loading;
- (6) Port of final discharge;
- (7) Description of commodity;
- (8) Gross weight in pounds and cubic feet if available;
- (9) Total ocean freight in U.S. dollars; and
- (10) Name of the steamship company.

(e) The Contractor agrees to provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

- (1) No ocean transportation was used in the performance of this contract;
- (2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;
- (3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or
- (4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

	Item Description	Contract Line Items	Quantity
Total.....			

(f) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(g) The Contractor shall include this clause, including this paragraph (g) in all subcontracts under this contract, which exceed the small purchase limitation of section 13.000 of the Federal Acquisition Regulation.

(End of clause)

I.93 52.247-7024

NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (DEC 1991)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor--

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause, including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties, in all subcontracts hereunder.

(End of clause)

END OF SECTION I

DACA47-92-B-0045

I-11

**CERTIFICATION OF PROGRESS PAYMENTS  
UNDER FIXED-PRICE CONSTRUCTION CONTRACTS**

1. PROJECT NAME	2. CONTRACT NUMBER
a. PROJECT LOCATION	4. CONTRACT DATE
5. DESIGNATED BILLING OFFICE	<p align="center"><b>INSTRUCTIONS</b></p> <p>Type or print all entries on this form except item 7</p> <p>Please sign and attach a copy of this certification to your ENG FORM 93 when requesting progress payments.</p>

**6. CERTIFICATION**

In accordance with the clause at FAR 52.232-5, Payments Under Fixed-Price Construction Contracts, I hereby certify, to the best of my knowledge and belief, that-----

- 1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- 2) Payments to subcontractors and suppliers have been made from previous payment received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with Subcontract agreements and the requirements of Chapter 39 of title 31, United States Code; and
- 3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or Supplier in accordance with the terms and conditions of the subcontract.

7. CERTIFIED BY (signature)	8. DATE
-----------------------------	---------

9. TYPE OR PRINT NAME AND TITLE OF CERTIFYING OFFICER

10. NAME AND ADDRESS OF CONTRACTOR (number, street, city, state and ZIP code)





# INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in Item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (Item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in Item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in Item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.  
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (Item 4) to the lobbying entity (Item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
15. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

**DISCLOSURE OF LOBBYING ACTIVITIES  
CONTINUATION SHEET**

Approved by OMB  
0348-0046

Reporting Entity: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

<b>BID BOND</b> (See instructions on reverse)	DATE BOND EXECUTED (Must not be later than bid opening date)	FORM APPROVED OMB NO.  <b>9000-0045</b>
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Public reporting burden for this collection of information is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (VRS), Office of Federal Acquisition Policy, GSA, Washington, D.C. 20405; and to the Office of Management and Budget, Paperwork Reduction Project (9000-0045), Washington, D.C. 20503.

PRINCIPAL (Legal name and business address)	TYPE OF ORGANIZATION ("X" one) <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> CORPORATION STATE OF INCORPORATION
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SURETY(IES) (Name and business address)

PENAL SUM OF BOND					BID IDENTIFICATION	
PERCENT OF BID PRICE	AMOUNT NOT TO EXCEED				BID DATE	INVITATION NO.
	MILLIONS	THOUSANDS	HUNDREDS	CENTS		
					FOR (Construction, Supplies or Services)	

**OBLIGATION:**

We, the Principal and Surety(ies) are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

**CONDITIONS:**

The Principal has submitted the bid identified above.

**THEREFORE:**

The above obligation is void if the Principal - (a) upon acceptance by the Government of the bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), executes the further contractual documents and gives the bond(s) required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by the principal; or (b) in the event of failure to execute such further contractual documents and give such bonds, pays the Government for any cost of procuring the work which exceeds the amount of the bid.

Each Surety executing this instrument agrees that its obligation is not impaired by any extensions of the time for acceptance of the bid that the Principal may grant to the Government. Notice to the surety(ies) of extensions are waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

**WITNESS:**

The Principal and Surety(ies) executed this bid bond and affixed their seals on the above date.

PRINCIPAL					
	1. SIGNATURE(S)	2. (Seal)	3. (Seal)		
				Corporate	
	1. NAME(S) & TITLES (Typed)	2.	3.		Seal
INDIVIDUAL SURETY(IES)					
	1. SIGNATURE(S)	2. (Seal)			(Seal)
	1. NAME(S) (Typed)	2.			
CORPORATE SURETY(IES)					
SURETY A	NAME & ADDRESS	STATE OF INC.		LIABILITY LIMIT \$	
	1. SIGNATURE(S)	2.			
	1. NAME(S) & TITLES (Typed)	2.			Corporate Seal

**CORPORATE SURETY(IES) (Continued)**

SURETY B	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURE(S)	1.	2.	\$	
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY C	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURE(S)	1.	2.	\$	
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY D	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURE(S)	1.	2.	\$	
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY E	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURE(S)	1.	2.	\$	
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY F	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURE(S)	1.	2.	\$	
	NAME(S) & TITLE(S) (Typed)	1.	2.		
SURETY G	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURE(S)	1.	2.	\$	
	NAME(S) & TITLE(S) (Typed)	1.	2.		

**INSTRUCTIONS**

1. This form is authorized for use when a bid guaranty is required. Any deviation from this form will require the written approval of the Administrator of General Services.
2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
3. The bond may express penal sum as a percentage of the bid price. In these cases, the bond may state a maximum dollar limitation (e.g., 20% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).
4. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitation listed therein. Where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." In the space designated "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.  
  
 (b) Where individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.
5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal"; and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.
6. Type the name and title of each person signing this bond in the space provided.
7. In its application to negotiated contracts, the terms "bid" and "bidder" shall include "proposal" and "offeror."

**PAYMENT BOND**  
(See instructions on reverse)

DATE OF CONTRACT

FORM APPROVED ONE NO

8000-0045

Public reporting burden for this collection of information is estimated to average 25 minutes per response including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the PAF Secretariat (VRS), Office of Federal Acquisition Policy, GSA, Washington, D.C. 20405, and to the Office of Management and Budget, Paperwork Reduction Project (8000-0045), Washington, D.C. 20503.

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION (Type one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name(s) and business address(es))

PENAL SUM OF BOND

MILLIONS	THOUSANDS	HUNDREDS	CENTS

CONTRACT DATE      CONTRACT NO.

**OBIGATION:**

We, the Principal and Surety(ies), are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally; however, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum jointly and severally as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us for a single purpose, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

**CONDITIONS:**

The above obligation is void if the Principal promptly makes payment to all persons having a direct relationship with the Principal or a subcontractor of the Principal for furnishing labor, materials, or both in the prosecution of the work provided for in the contract identified above, and any authorized modifications of the contract that subsequently are made. Notice of those modifications to the Surety(ies) are waived.

**WITNESS:**

The Principal and Surety(ies) executed this Payment Bond and affixed their seals on the above date.

PRINCIPAL			
SIGNATURE(S)	1.	2.	3.
	(See)	(See)	(See)
NAME(S) & TITLES (Typed)	1.	2.	3.
			Corporate See
INDIVIDUAL SURETY(IES)			
SIGNATURE(S)	1.	2.	
		(See)	(See)
NAME(S) (Typed)	1.	2.	
			(See)
CORPORATE SURETY(IES)			
SURETY	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT
	SIGNATURE(S)	1.	2.
	NAME(S) & TITLES (Typed)	1.	2.
			Corporate See

NSA 7540-01-152-806  
Previous edition not usable

EXPIRATION DATE 12-31-82

25-205

STANDARD FORM 25-A (REV. 1-65)  
Prescribed by GSA - FPMR (41 CFR) 101-11.6

**CORPORATE SURETIES: (CONTINUED)**

SURETY	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	Corporate Seal	
	SIGNATURES	1.	2.		
	NAMES & TITLES (Type)	1.	2.		
SURETY C	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	Corporate Seal	
	SIGNATURES	1.	2.		
	NAMES & TITLES (Type)	1.	2.		
SURETY D	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	Corporate Seal	
	SIGNATURES	1.	2.		
	NAMES & TITLES (Type)	1.	2.		
SURETY E	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	Corporate Seal	
	SIGNATURES	1.	2.		
	NAMES & TITLES (Type)	1.	2.		
SURETY F	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	Corporate Seal	
	SIGNATURES	1.	2.		
	NAMES & TITLES (Type)	1.	2.		
SURETY G	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	Corporate Seal	
	SIGNATURES	1.	2.		
	NAMES & TITLES (Type)	1.	2.		

**INSTRUCTIONS**

1. This form, for the protection of persons supplying labor and material, is used when a payment bond is required under the Act of August 24, 1935, 46 Stat. 753 (40 U.S.C. 270a-270e). Any deviation from this form will require the written approval of the Administrator of General Services.

2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.

3. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of approved sureties and must act within the limitation listed therein. Where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETIES;" in the space designated "SURETIES"

on the face of the form, insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 28) for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning their financial capability.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal", and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.

5. Type the name and title of each person signing this bond in the space provided.

**PERFORMANCE BOND**  
(See instructions on reverse)

DATE BOND EXECUTED (MUST BE SOME OTHER THAN DATE OF CONTRACT)

FORM APPROVED ONE AND

8000-8045

Public reporting burden for this collection of information is estimated to average 25 minutes per response including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretary (VRS), Office of Federal Acquisition Policy, GSA, Washington, D.C. 20405; and to the Office of Management and Budget, Paperwork Reduction Project (8000-8045), Washington, D.C. 20503.

PRINCIPAL (Name and business address)

TYPE OF ORGANIZATION (X) one:

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETIES (Name and business address)

PENAL SUM OF BOND

MILLIONS	THOUSANDS	HUNDREDS	CENTS
----------	-----------	----------	-------

CONTRACT DATE      CONTRACT NO.

**OBIGATION:**

We, the Principal and Sureties, are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally; however, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum jointly and severally as well as "severally" only for the purpose of allowing a joint action or actions against any one or all of us for all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

**CONDITIONS:**

The principal has entered into the contract identified above.

**THEREFORE:**

The above obligation is void if the Principal -

(a) Performs and fulfills all the undertakings, covenants, terms, conditions, and agreements of the contract during the original term of the contract and any extensions thereof that are granted by the Government, with or without notice to the Sureties; and during the life of any guaranty required under the contract; and (2) performs and fulfills all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of the contract that hereafter are made. Notice of those modifications to the Sureties are waived.

(b) Pays to the Government the full amount of the taxes imposed by the Government, if the said contract is subject to the Miller Act, (40 U.S.C. 270a-270e), which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished.

**WITNESS:**

The Principal and Sureties, executed this performance bond and affixed their seals on the above date.

**PRINCIPAL**

SIGNATURES	1.	2.	3.	CORPORATE Seal
	(Seal)	(Seal)	(Seal)	
NAME(S) & TITLED (Typed)	1.	2.	3.	CORPORATE Seal

**INDIVIDUAL SURETIES**

SIGNATURES	1.	2.	(Seal)
	(Seal)	(Seal)	
NAME(S) (Typed)	1.	2.	(Seal)

**CORPORATE SURETIES**

SURETY A	NAME & ADDRESS	STATE OF INC.	LIABILITY LIMIT	CORPORATE Seal
	SIGNATURES	1.	2.	
	NAME(S) & TITLED (Typed)	1.	2.	

**CORPORATE SURETIES (Continued)**

<b>SURETY B</b>	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURES	1.	2.		
	NAMES & TITLES (Typed)	1.	2.		
<b>SURETY C</b>	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURES	1.	2.		
	NAMES & TITLES (Typed)	1.	2.		
<b>SURETY D</b>	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURES	1.	2.		
	NAMES & TITLES (Typed)	1.	2.		
<b>SURETY E</b>	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURES	1.	2.		
	NAMES & TITLES (Typed)	1.	2.		
<b>SURETY F</b>	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURES	1.	2.		
	NAMES & TITLES (Typed)	1.	2.		
<b>SURETY G</b>	NAME & ADDRESS		STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	SIGNATURES	1.	2.		
	NAMES & TITLES (Typed)	1.	2.		

BOND PREMIUM	▶	RATE PER THOUSAND	▶	TOTAL
		\$		\$

**INSTRUCTIONS**

1. This form is authorized for use in connection with Government contracts. Any deviation from this form will require the written approval of the Administrator of General Services.

2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (i.e., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.

3. (a) Corporations executing the bond as sureties must appear on the Department of the Treasury's list of the approved sureties and must act within the limitation listed therein. Where more than one corporate surety is involved their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETIES" in the space designated "SURETIES"

on the face of the form insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal", and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.

5. Type the name and title of each person signing this bond in the space provided.



GENERAL WAGE DECISION NO. NM91-2

Supersedes General Wage Decision No. NM90-2

State: NEW MEXICO

County(ies): Statewide (excluding Bernalillo, Dona Ana, Los Alamos and Santa Fe Counties).

Construction Type: Streets, Highway, Utility and Light Engineering

Construction Description: STREETS, HIGHWAY, UTILITY AND LIGHT ENGINEERING CONSTRUCTION shall include the construction, alteration, repair and demolition of roads, streets, highways, alleys, sidewalks, curbs, gutters, guard rails, fences, parkways, parking areas, airports (other than buildings thereon), bridle paths, athletic fields, highway bridges, median channels and grade separations involving highways; parks, golf courses, viaducts; uncovered reservoirs and uncovered sewage and water treatment facilities; canals, ditches and channels (including linings other than concrete linings); earth dams under one million (1,000,000) cubic yards; well drilling, telephone and electrical transmission lines and site preparations which are part of streets, highway, utility and light engineering projects; and shall include construction, alteration, repair, and demolition of utilities such as sanitary sewers, storm sewers, water lines, gas lines, including appurtenances thereto such as lift stations, inlets, manholes, sewer lagoons, septic tanks and service outlets (stubouts), providing such utility construction is outside the property line or more than five (5) feet from a building or heavy engineering structure, including the Navajo Indian Reservation.

Modification Record:

No.	Publication Date	Page No.(s)
1	Apr. 26, 1991	797

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	Basic Hourly Rates	Fringe Benefits	
CARPENTERS	8.11	.44	
CEMENT MASONS	8.18	.26	
ELECTRICIANS	17.00	2.35	
IRONWORKERS:			
Reinforcing	7.96	.50	
Structural	9.36	1.29	
LABORERS:			
Group I	5.70	.35	
Group II	6.00	.35	
Group III	6.40	.35	
COMMERCIAL LINE WORK:			
AREA A:			
Linemen - Technicians:			
Zone I	17.70	2.70	3.75%
Zone II	19.29	2.70	3.75%
Zone III	20.36	2.70	3.75%
Zone IV	22.30	2.70	3.75%
Cable Splicers:			
Zone I	19.47	2.70	3.75%
Zone II	21.06	2.70	3.75%
Zone III	22.13	2.70	3.75%
Zone IV	24.07	2.70	3.75%
Equipment Op. (includes heli- copter op.):			
Zone I	16.81	2.70	3.75%
Zone II	18.40	2.70	3.75%
Zone III	19.47	2.70	3.75%
Zone IV	21.41	2.70	3.75%
Equipment mechanic (include heli- copter mech.):			
Zone I	16.81	2.70	3.75%
Zone II	18.40	2.70	3.75%
Zone III	19.47	2.70	3.75%
Zone IV	21.41	2.70	3.75%
Powderman:			
Zone I	15.40	2.70	3.75%
Zone II	16.99	2.70	3.75%
Zone III	18.06	2.70	3.75%
Zone IV	20.00	2.70	3.75%
Groundman - Jackhammer op.:			
Zone I	12.57	2.70	3.75%
Zone II	14.16	2.70	3.75%
Zone III	15.23	2.70	3.75%
Zone IV	17.17	2.70	3.75%
AREA B:			
Linemen - Technicians:			
Zone I	15.05	1.80	3.75%
Zone II	17.03	1.80	3.75%
Cable Splicers:			
Zone I	15.49	1.80	3.75%
Zone II	17.54	1.80	3.75%
Equipment mechanic (include heli- copter mechanic:			

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Zone I	12.83	1.80	3.75%
Zone II	14.53	1.80	3.75%
Powderman:			
Zone I	12.39	1.80	3.75%
Zone II	14.03	1.80	3.75%
Jackhammer - Groundman:			
Zone I	10.47	1.80	3.75%
Zone II	11.86	1.80	3.75%
AREA C:			
Linemen - Technicians:			
Zone I	16.45	2.25	3.75%
Zone II	16.90	2.25	3.75%
Zone III	17.05	2.25	3.75%
Zone IV	17.30	2.25	3.75%
Cable Splicers:			
Zone I	16.78	2.25	3.75%
Zone II	17.23	2.25	3.75%
Zone III	17.38	2.25	3.75%
Zone IV	17.63	2.25	3.75%
Equipment Op. & mechanics (includes helicopter op. & mechanics):			
Zone I	14.31	2.25	3.75%
Zone II	14.76	2.25	3.75%
Zone III	14.91	2.25	3.75%
Zone IV	15.16	2.25	3.75%
Powderman:			
Zone I	13.82	2.25	3.75%
Zone II	14.27	2.25	3.75%
Zone III	14.42	2.25	3.75%
Zone IV	14.67	2.25	3.75%
Groundman - Jackhammer:			
Zone I	11.68	2.25	3.75%
Zone II	12.13	2.25	3.75%
Zone III	12.28	2.25	3.75%
Zone IV	12.53	2.25	3.75%
LINE CONSTRUCTION - UTILITY FOR ELEC- TRIC & TELEPHONE UTILITIES, REA CD-OPS, RAILROADS & MUNICIPALITIES:			
Linemen-Technicians	17.52	2.95	3.75%
Cable Splicers	18.75	2.95	3.75%
Equipment op. & mechanic (includes helicopter op. & helicopter mechanic)	15.24	2.95	3.75%
Powderman	14.72	2.95	3.75%
Groundman-Jackhammer	11.91	2.95	3.75%
PAINTERS:			
Brush	8.64	.91	
Spray	9.09	.20	
*PLUMBERS:			
AREA I	17.94	4.99	
Specific Area	18.74	4.99	
All irrigation & lawn sprinkler work	7.80	3.09	
POWER EQUIPMENT OPERATORS:			
GROUP I	8.06	.26	
GROUP II	8.26	.26	
GROUP III	8.84	.26	
GROUP IV	8.86	.26	
GROUP V	8.86	.26	



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GROUP VI	9.01	.26
GROUP VII	9.06	.26
GROUP VIII	9.21	.26
GROUP IX	9.71	.26
GROUP X	10.51	.26
<b>TRUCK DRIVERS:</b>		
Pick-up truck 3/4 ton or under; warehouseman; dump truck under 8 cu. yds.; flat bed, 1 1/2 ton or under	6.75	.26
Dump truck, 8 to 16 cu. yds.; flat bed over 1 1/2 ton	6.95	.26
Distributor (asphalt); transit-mix; lowboy, light equipment; off-highway hauler; dump truck over 16 cu. yds.; trailer semi-trailer dump	7.15	.26
Diesel-powered transport; lowboy heavy equipment	7.35	.26

WELDERS -- Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5 (a) (1) (ii)).

CLASSIFICATION AREA AND ZONE DEFINITIONS

LABORERS:

- GROUP I - Common laborer; carpenter tender; concrete buggy op. (hand); concrete workers
- GROUP II - Air & power tool man; asphalt heaterman; asphalt jointman; asphalt raker; batching plant scaleman; tenders (to cement mason & plasterer); chain sawman; concrete power buggyman; concrete touchup man; concrete sawman; curbing machine, asphalt or cement; cutting torchman; metal form setter-road; grade setter; hod carrier; mortar mixer & mason tender; powderman or blaster tender; sandblaster; scaler; vibratorman (hand type); vibrator compactor (hand type); wagon air tract, drill & diamond driller (outside) & tender
- GROUP III - Gunite pumpcrete & nozzle man; multiplate setter; manhole builder; pipelayer; powderman-blaster-make-up

COMMERCIAL LINE WORK (excluding work done for electric & telephone utilities, REA co-ops, railroad & municipalities):

- AREA A - Also applies to switching stations & substations adjacent to power plants. Catron, Chaves, Cibola, Colfax, Curry, Debaca, Grant, Guadalupe, Harding, Lincoln, McKinley, Mora, Quay, Rio Arriba, Roosevelt, Sandoval, San Juan, San Miguel, Sierra, Socorro, Taos, Torrance, Union, Valencia, and those portions of White Sands Missile Range and Fort Bliss in Otero County, New Mexico

ZONE 1 - Cities & Towns Basing Points & Miles from Main Post Office

Roswell 12 miles Ruidoso - 12 miles



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Las Vegas - 8 miles  
 Farmington - 6 miles  
 Raton - 6 miles  
 Tucumcari - 6 miles  
 Aztec - 6 miles

Portales - 12 miles  
 Carrizozo - 12 miles  
 Clovis - 12 miles  
 Gallup - 10 miles

ZONE II - Extending up to 20 miles beyond Zone I, EXCEPT ALBUQUERQUE, rates per hour shall be increased by 9% of the journeyman rate of Zone I

ZONE III - Extending up to 30 miles beyond Zone I, EXCEPT ALBUQUERQUE rates per hour shall be increased by 15% of the journeyman rate of Zone I

ZONE IV - Anything beyond 30 miles from Zone I, EXCEPT ALBUQUERQUE, rates per hour shall be increased by 26% of the journeyman rate for Zone I

For establishing the outlying free zones from the Albuquerque free zone only, Zone II shall extend up to 10 miles beyond Zone I, Zone III shall extend up to 20 miles beyond Zone I and Zone IV anything beyond 20 miles from Zone I

AREA B - Applies to switching stations & substations adjacent to power plants in Zone I & Zone II in Luna, Dona Ana, Otero & Hidalgo Cos., exclusive of those portions of White Sands Missile Range and Fort Bliss in Dona Ana County, New Mexico.

ZONE I - that area within 25 miles radius from the downtown Post Office of El Paso, Texas. Fort Bliss & Biggs Field; the area within a 5 mile radius of any city, town or municipality within which an employer establishes or maintains his place of business; the area within 10 mile radius from the Post Office in Alamogordo, New Mexico.

ZONE II - all other areas of the jurisdiction except those specified in Zone I

AREA C - applies to switching stations adjacent to power plants in Eddy & Lea Cos.; the following zones listed shall be designated from the Main Post Office of Artesia, Carlsbad, Hobbs & Lovington:

Zone I - 0 to 12 miles	Zone II - 12 to 22 miles
Zone III - 22 to 40 miles	Zone IV - 40 miles & beyond

**PLUMBERS & PIPEFITTERS AREA DEFINITIONS:**

**AREA I:**

Albuquerque, Alamogordo, Anthony, Belen, Bernalillo, Clovis, Deming, Espanola, Farmington, Gallup, Grant, Las Cruces, Las Vegas, Lordsburg, Los Lunas, Portales, Raton Rio Rancho, Roswell, Ruidoso, Sante Fe, Silver City, Santa Rosa, Socorro, Taos, Tucumcari, Truth or Consequence, Artesia, Carlsbad, Hobbs, and Lovington.

**Specific Area:**

Los Alamos, White Rock, South Mesa, McGregor Range, White Sands Missile Range and/or Proving Grounds.

**POWER EQUIPMENT OPERATORS**

GROUP I - Concrete paving curing machine



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GROUP II - Belt type conveyors (material & concrete); broom (self-propelled); fork lift; grease truck op.; head oiler; hydro lift; tractor (under 50 drawbar HP with or without attachment); industrial locomotive brakeman; front end loader (2 CY or less); fireman; oiler; screedman; roller (pull type); mulching machine; roller (self-propelled)

GROUP III - Concrete paving form grader; concrete paving gang vibrator; concrete paving joint or saw machine; concrete paving subgrader; tractor with backhoe attachment; subgrade or base finisher; power plant (electric, general or welding machine)

GROUP IV - Bulldozer (including self-propelled roller with dozer attachment; batch or continuous mix plant (concrete soil-cement or asphalt); roller (steel wheel); front end loader (2 CY thru 10 CY); scraper; motor grader

GROUP V - Asphalt distributor; asphalt paving or laydown machine; asphalt retort heater; mixer, heavy duty, asphalt or soil cement; trenching machine; clam type shaftmucker; backhoe, clamshell, dragline, gradall, shovel (under 3/4 CY); elevating grader or belt loader; cranes (crawler or mobile) under 20 ton; air compressor (300 CFM & over); crushing, screening & washing plants; drilling machine (cable, core or rotary); mixer, concrete (1 CY & less); pump (6" intake or over); winch truck; hoist (1 drum); industrial locomotive motorman; lumber stacker; tractor (50 drawbar HP or over)

GROUP VI - Concrete paver mixer; hoist (2 drum & over); side boom; traveling crane; piledriver; backhoe, clamshell, dragline, gradall, shovel (3/4 CY to 3 CY); cranes (crawler or mobile) 20 ton to 40 ton; front end loader (over 10 CY); mixer concrete (over 1 CY); mechanic and/or welder

GROUP VII - Concrete slip-form paving machine; concrete paving finishing machine; concrete paving longitudinal float; gunite machines; refrigerator; jumbo form or drilling; stage; slusher; concrete paving spreader; pumpcrete machine; grout pump op.

GROUP VIII - Mine hoist; bulldozer (multiple units); scraper (multiple units); mucking machines; backhoe, clamshell, dragline, gradall, shovel (over 3 CY); cranes (crawler or mobile)

GROUP IX - Belt loader (CMI type) op.; derrick cableway

GROUP X - Pipemobile op., mole op.

I N D E X

SPECIAL CLAUSES

<u>Clause No.</u>	<u>Title</u>	<u>Page No.</u>
1	COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK	1
2	LIQUIDATED DAMAGES - CONSTRUCTION	1
3	CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS	2
4	TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER	3
5	PERFORMANCE OF WORK BY CONTRACTOR	4
6	PHYSICAL DATA	4
7	NATIVE AMERICAN GRAVES PROTECTION	5
8	LAYOUT OF WORK	5
9	EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE	5
10	INCLUSION OF LABOR PROVISIONS IN SUBCONTRACTS	6

Specifications: Landfill 5, Cell 3, Soil Cap, CAFB

SECTION 00800

SPECIAL CLAUSES

1. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK (FAR 52.212-3) (APR 1984).

(a) The Contractor shall be required to (a) commence work under this contract within ten (10) calendar days after the date the Contractor receives notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than the dates or number of calendar days after the date of receipt by him of notice to proceed set forth in the schedule below, except final as-built drawings, which will be accomplished as specified below:

SCHEDULE

SCHEDULE

<u>Item of Work</u>	<u>Completion Time in Calendar Days After Receipt of Notice To Proceed</u>	<u>Liquidated Damages Per Calendar Day</u>
(1) All work	120	\$197.00
(2) Final As-Built Drawings	*	*

\*The Contractor shall commence work on final as-built drawings upon his receipt of the approved preliminary as-built drawings and the reproducible original contract drawings. The Contractor shall have 60 calendar days after such receipt to complete and return to the Contracting Officer all specified final as-built drawing work. Upon satisfactory completion of this work the Contractor shall have earned the amount shown for Final As-Built Drawings in the Bid Schedule.

(b) The time stated for completion shall include final cleanup of the premises.

2. LIQUIDATED DAMAGES - CONSTRUCTION (FAR 52.212-5) (APR 1984).

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum stated in Clause 1(a) above for each day of delay.

(b) If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

3. CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (DFAR 252.236-7001) (DEC 1991):

(a) The Government

(1) Will provide the Contractor, without charge, one (1) set of reduced scale and one (1) set of large scale reproducible contract drawings and five (5) sets of specifications except publications incorporated into the technical provisions by reference;

(b) The Contractor shall

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies; and

(4) Be responsible for any errors which might have been avoided by complying with this paragraph (b).

(c) Large scale drawings shall, in general, govern small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

CONTRACT DRAWINGS	
LANDFILL 5, CELL 3 SOIL CAP, CAFB	
Sequence No.	Title
1 thru 5	The list of drawings and maps set out in the index on the drawings is hereby incorporated by reference into these specifications.  Schedules included in the drawings are for the purpose of defining requirements other than quantities.

4. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15) (OCT 1989).

(a) This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled "DEFAULT (FIXED PRICE CONSTRUCTION)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

1. The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

2. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

(b) The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

Monthly Anticipated Adverse Weather Delay  
Work Days Based on (5) Day Work Week

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
7	6	5	5	5	7	5	7	4	4	5	8

(c) Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work.

Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day.

(d) The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph B, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)."

5. PERFORMANCE OF WORK BY CONTRACTOR (FAR 52.236-1) (APR 1984). The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty-five percent (25%) of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

6. PHYSICAL DATA (FAR 52.236-4) (APR 1984). Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and as shown on the drawings. Soils exploration data enclosures and tables are attached at the end of these special clauses.

(b) Weather Conditions:

(1) Climate: The climate is continental and is characterized by abundant sunshine, low relative humidities and considerable ranges of annual and diurnal temperatures.

(2) Precipitation: The average annual precipitation is 13.42 inches. The maximum annual rainfall of 29.56 inches occurred in 1941. The maximum monthly rainfall of 8.66 inches occurred in September 1941. The maximum 24-hour rainfall of 4.35 inches also occurred in September 1941. The average annual snowfall is 13.6 inches. The highest average monthly snowfall is 3.5 inches and is in December.

(3) Temperature: Average monthly maximum temperatures range from 51.6 degrees F in January to 92.5 degrees in July. Average monthly minimum temperature range from 24.5 degrees in January to 66.9 degrees in July. Temperature extremes are minus 20.0 degrees and 110.0 degrees.

(4) Relative Humidity: Monthly average relative humidities at 4:00 p.m. range from 54 percent in January to 32 percent in June.

(5) Wind: Wind speeds are normally moderate although relatively strong winds often accompany frontal activity during late winter and spring months. Wind speeds that may exceed 30 m.p.h. are not uncommon.

(6) Frost Data: Frost free periods vary from 177 days to 229 days per year and average 205 days per year. The average date of the last killing frost in the spring is 11 April. The average date of the first killing frost in the autumn is 2 November.

(c) Transportation Facilities: Highways and railroads are as shown on the drawings."

7. NATIVE AMERICAN GRAVES PROTECTION (MARCH 1992) (CESWF).

(a) The Native American Graves Protection and Repatriation Act, hereinafter referred to as "the Act", enacted November 16, 1990, (Public Law 101-601, 25 U.S. Code) is applicable to this contract.

(b) The Contractor may discover Native American human remains and objects, as defined in the Act, during contract execution. In the event of such discovery the Contractor shall immediately cease activity in the area of the discovery and shall immediately notify the Contracting Officer of the discovery. The Contractor shall make a reasonable effort to protect the items discovered in accordance with the Act and before resuming such activity. Fines and penalties for illegal trafficking in Native American human remains and cultural items are as defined in the Act.

(c) Upon receipt of notification of the discovery, the Contracting Officer shall notify the appropriate authorities as required by the Act. The cessation of the activity in the area shall be for a minimum period of 30 days after the Contracting Officer has received certification of receipt of notification from the appropriate authorities, in accordance with the Act.

(d) The Contractor shall not resume the activity in the area of the discovery until the Contracting Officer has given the Contractor notice that the Contractor may resume the activity.

8. LAYOUT OF WORK. The Contractor shall provide the Government with a final survey lay out of the site establishing base lines and bench marks, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out the final survey of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The layout of work shall be reflected on the final As-Built drawings.

9. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (EFARS 31.105(d)(2)(i)(A)):

(a) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data when the Government

can determine both ownership and operating costs for each piece of equipment or equipment groups of similar serial and series from the Contractor's accounting records. When both ownership and operating costs cannot be determined from the Contractor's accounting records, equipment costs shall be based upon the applicable provisions of EP 1110-1-8, "CONSTRUCTION EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE", Region VI. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retrospective pricing, the schedule in effect at the time the work was performed shall apply.

(b) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36 substantiated by certified copies of paid invoices. Rates for equipment rented from an organization under common control, lease-purchase or sale-leaseback arrangements will be determined using the schedule except that rental costs leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees are allowable. Costs for major repairs and overhaul are unallowable.

(c) When actual equipment costs are proposed and the total amount of the pricing action is over \$25,000, cost or pricing data shall be submitted on Standard Form 1411, "Contract Pricing Proposal Cover Sheet". By submitting cost or pricing data, the Contractor grants to the Contracting Officer or an authorized representative the right to examine those books, records, documents and other supporting data that will permit evaluation of the proposed equipment costs. After price agreement, the Contractor shall certify that the equipment costs or pricing data submitted are accurate, complete and current.

10. INCLUSION OF LABOR PROVISIONS IN SUBCONTRACTS (SWDOC, Ltr No. 86-3, 3 Sep 86). To show compliance with Contract Clause, "SUBCONTRACTS", the Contractor shall, within seven days after award of any subcontract either by himself or a subcontractor of any tier, deliver to the Contracting Officer a completed Standard Form 1413. Nothing contained in this clause or any other provision of this contract shall create any contractual relation between any subcontractor and the Government.

- END OF SPECIAL CLAUSES -

CORE SAMPLE RESULTS\*

\* Extracted from "Closure and Post Closure Plans for Landfill Trench at Cannon Air Force Base" - Final Draft of 1 July 1985, by HMTC.

## CORE SAMPLE RESULTS

Two 9-inch diameter cores of 40-foot depth were removed from the landfill trench on January 22, 1985. Six samples from each core (depths of 10, 15, 20, 25, 30, and 40 feet) were analyzed for chromium, lead, arsenic, tin, mercury, and volatile organics. The metals analyses were accomplished by nitric acid digestion/atomic adsorption spectroscopy and the volatile organics were analyzed using gas chromatograph mass spectrometry. Table C-1 summarizes the composite results of these analyses.

Table C-1. Core Analyses

<u>Constituent</u>	<u>Concentration (ppm)</u>	<u>Detection Limit (ppm)</u>
Chromium	14 - 36	0.005
Lead	0.2 - 10.5	0.001
Arsenic	3.70 - 9.61	0.002
Tin	0.5 - 2.0	0.002
Mercury	0.04 - 0.68	0.002
Volatile Organics	< 0.01	0.01

Volatile organics are insignificant in this landfill trench because they are of a low enough concentration at all depths that they are not identified at a 10 ppb detection limit. Effectively, there are no volatile organics available to ever contaminate groundwater. The metal levels appear to be high in these analytical results, but this is not significant because the lowest levels of the value ranges are reached at the 40-foot depth. Very little would be available to groundwater which is 280 feet deeper still (i.e., groundwater is 320 feet below the surface at Cannon AFB).

INVENTORY OF HAZARDOUS WASTE IN CELL NO. 3\*

\* Extracted from "Closure and Post Closure Plans for Landfill Trench at Cannon Air Force Base" - Final Draft of 1 July 1985, by HMTG.

### INVENTORY OF HAZARDOUS WASTE IN CELL NO. 3

Landfill No. 5 began operation in 1968 and is in current use. The site is located in the southeast corner of the base and covers approximately 30 acres. Trench No. 3, the specific trench for which this closure plan is applicable, was closed in 1981. The trench covers an area of approximate dimensions 14,000 square feet.

Materials received at this landfill in 1981 are similar to those received at the former base landfills and include domestic solid waste, waste oils and solvents, paints, paint removers and thinners, pesticide containers, empty cans, and general construction debris. Materials from drums were generally deposited on absorbent materials placed in the trench. The drums were then reclaimed for reuse.

From 1968 to about 1972, wastes were burned and then buried in trenches. Since 1972, the standard procedure has been direct burial of the wastes in trenches. There are 11 covered trenches at the site. A twelfth trench was open and in use at the time of the Phase I records search and site visit. Trenches were generally excavated 18 to 20 feet deep, with trench bottoms into the underlying caliche layer.

Boring data support the assertion that none of the hazardous waste is containerized within trench No. 3. Site interviews with Cannon AFB officials also support this assertion. No volatile or organic solvents were detected in the analysis of the boring data. The estimated maximum inventory of hazardous waste in trench No. 3 is shown in Table D-1 as follows:

Table D-1. Hazardous Waste Inventory

<u>Hazardous Waste</u>	<u>Percent</u>	<u>Amount in Pounds</u>
Methyl ethyl ketone	39.6	3,564
Toluene	43.4	3,906
Methyl isobutyl ketone	10.4	936
Cyclohexanone	2.4	216
Xylene	1.6	144
Ethylene glycol monobutyl ether	1.6	144
Lead	0.6	54
Chromate	0.4	36

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SECTION 01000

GENERAL REQUIREMENTS

1. SUPERVISION BY THE CONTRACTOR. The following requirements, in addition to those contained in the Contract Clause entitled: SUPERINTENDENCE BY CONTRACTOR, shall be met by the Contractor:

1.1 Authority of Contractor Representative. The site representative appointed by the Contractor and approved by the Contracting Officer shall, as a minimum, have the following authority:

1.1.1 To negotiate and execute Supplemental Agreements having a value up to \$100,000.

2. AGE AND VALUE OF EQUIPMENT. If requested by the Contracting Officer, the Contractor shall provide documentation to establish the age and value of any equipment being utilized to perform work under this contract.

3. WORK SCHEDULE. If the Contractor intends to work outside the normal 40 hour Monday through Friday work week, he shall notify the Contracting Officer one full workday (Monday - Friday) in advance.

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## SECTION 01100

### ENVIRONMENTAL PROTECTION

1. SCOPE: The work covered by this section consists of furnishing all labor, materials and equipment and performing all work required for the prevention of environmental pollution during and as the result of construction operations under this contract except for those measures set forth in other Technical Provisions of these specifications. For the purpose of this specification environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, and land, and involves noise, solid waste-management and management of radiant energy and radioactive materials, as well as other pollutants.

2. APPLICABLE REGULATIONS: In order to prevent, and to provide for abatement and control of, any environmental pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, they shall comply with all applicable Federal, State, and local laws, and regulations concerning environmental pollution control and abatement, and all applicable provisions of the Corps of Engineers EM 385-1-1, entitled "Safety and Health Requirements Manual" as well as the specific requirements stated in this section and elsewhere in the contract specifications.

3. NOTIFICATION: The Contracting Officer will notify the Contractor in writing of any observed non-compliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was later determined that the Contractor was in compliance.

4. SUBCONTRACTORS: Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

5. IMPLEMENTATION: Prior to commencement of the work the Contractor will:

(1) submit in writing his proposals for implementing the provisions of this section and other sections of these specifications for environmental pollution control;

(2) meet with representatives of the Contracting Officer to develop mutual understandings relative to compliance with these provisions and administration of the environmental pollution control program.

## 6. PROTECTION OF LAND RESOURCES:

6.1 General: The land resources within the property of the Government but outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, the Contractor shall confine his construction activities to areas defined by the plans or specifications, to areas to be cleared for other operations, or to quarry, borrow or waste areas indicated on the plans. At the onset of borrow excavation, topsoil shall be saved for use in restoring the borrow area. Waste and borrow areas shall be leveled or trimmed to regular lines and shaped to provide a neat appearance. In all instances the restored area shall be well drained, so as to prevent the accumulation of stagnant water. The following additional requirements are intended to supplement and clarify the requirements of Contract Clauses entitled PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS; OPERATIONS AND STORAGE AREAS; and CLEANING UP.

6.2 Prevention of Landscape Defacement: Except in areas shown on the plans or specified to be cleared, the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without special authority from the Contracting Officer. Trees designated to be saved shall be protected from either excavation or filling within the root zone closer than the normal drip line of the tree. No ropes, cables, or guys shall be fastened to or attached to any existing trees for anchorages unless specifically authorized by the Contracting Officer. Where such special emergency use is permitted, the Contractor shall first adequately wrap the trunk with a sufficient thickness of burlap or rags over which softwood cleats shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use. Where, in the opinion of the Contracting Officer, trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or by his blasting, dumping, or other operations, he may direct the Contractor to protect adequately such trees by placing boards, planks, or poles around them. When earthwork operations are liable, in the opinion of the Contracting Officer, to cause rock to roll or otherwise be displaced into uncleared areas, the Contractor shall construct barriers to protect the trees. Rocks that are displaced into uncleared areas shall be removed. Monuments, markers, and works of art shall be protected similarly before beginning operations near them.

6.3 Restoration of Landscape Damage: Any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to original condition at the Contractor's expense. The Contracting Officer will decide what method of restoration shall be used, and whether damaged trees shall be treated or removed and disposed of under requirements for clearing and grubbing. All scars made on trees (not designated on the plans to be removed) by equipment, construction operations, or by the removal of limbs larger than 1-inch in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted. Where tree climbing is necessary, the use of climbing spurs will not be permitted. The use of climbing

ropes will be required by the Contracting Officer where deemed necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Contracting Officer, shall be immediately removed and replaced with nursery-grown trees of the same species and size approved by the Contracting Officer.

6.4 Location of Temporary Field Offices, Storage, and Other Construction Buildings: The location on Government property of the Contractor's temporary field office, storage, and other construction buildings, required temporarily in the performance of the work, shall be upon cleared portions of the job site or areas to be cleared, and shall require written approval of the Contracting Officer. The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the construction of buildings. Plans showing temporary field office, storage, and other construction buildings shall be submitted for approval of the Contracting Officer. Where buildings or tent platforms are constructed on sidehills, the Contracting Officer may require cribbing to be used to obtain level foundations. Benching or leveling of earth may not be allowed, depending on the location of the proposed facility.

6.5 Temporary Excavation and Embankments: If the Contractor proposes to construct temporary roads or embankments and excavations for plant and/or work areas, he shall submit the following for approval at least thirty (30) days prior to scheduled start of such temporary work.

6.5.1 A layout of all temporary roads, excavations, and embankments to be constructed within the work area.

6.5.2 Details of road construction.

6.5.3 Details of the completed quarry or borrow excavation.

6.5.4 Plans and cross sections of proposed embankments and their foundations, including a description of proposed materials.

6.5.5 A landscaping plan prepared by a competent landscape architect showing the proposed restoration of the area. Removal of any necessary trees and shrubs outside the limits of required clearing or quarry, borrow, or waste areas shall be indicated. The plan shall also indicate location of required guard posts or barriers required to control vehicular traffic passing close to trees and shrubs to be maintained undamaged. The plan shall provide for the obliteration of construction scars as such and shall provide for a reasonably natural appearing final condition of the area. Modification of the Contractor's plans shall be made only with the written approval of the Contracting Officer. No unauthorized road construction, excavation or embankment construction (including disposal areas) will be permitted.

6.6 Post-Construction Cleanup or Obliteration: The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction, as directed by the Contracting Officer. It is anticipated that excavation, filling, and plowing of

roadways will be required to restore the area to near natural conditions which will permit the growth of vegetation thereon. The disturbed areas shall be graded and filled as required, sufficient topsoil shall be spread to provide a minimum depth of 4 inches of suitable soil for the growth of grass, and the entire area seeded. Restoration to original contours is not required.

## 7. PROTECTION OF HISTORICAL AND ARCHEOLOGICAL RESOURCES:

7.1 Preservation of Existing Historical, Archeological, and Cultural Resources: Any known existing historical, archeological and cultural resources within the Contractor's work area are designated on the contract drawings. The Contractor shall take precautions during this contract to preserve all resources as they existed at the time of contract award. The Contractor shall install all protective devices such as off limits markings, fencing, barricades or other devices as designated on the contract drawings and shall be responsible for preservation of the sites during this contract.

7.2 Recording and Preserving Historical and Archeological Finds: All items having any apparent historical or archeological interest outside of designated areas which are discovered in the course of any construction activities shall be carefully preserved. The Contractor shall leave the archeological find undisturbed and shall flag an area of 50 feet radius around the find, and shall immediately report the find to the Contracting Officer so that the proper authorities may be notified. Any work required to preserve or protect these finds will be accomplished by change order under the clause entitled CHANGES of the CONTRACT CLAUSES.

## 8. PROTECTION OF WATER RESOURCES:

8.1 General: The Contractor shall not pollute streams, lakes, or reservoirs with fuels, oils, bitumens, calcium chloride, acids, construction wastes, or other harmful materials. It is the responsibility of the Contractor to investigate and comply with all applicable Federal, State, County, and Municipal laws concerning pollution of rivers and streams. All work under the contract shall be performed in such a manner that objectionable conditions will not be created in lakes, reservoirs, or streams through or adjacent to the project areas.

8.2 Erosion Control: Prior to start of construction the Contractor shall submit a plan for approval of the Contracting Officer showing his scheme for controlling erosion and disposing of wastes. Surface drainage from cuts and fills within the construction limits, whether or not completed, and from borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation ponds, or the areas shall be graded to control erosion within acceptable limits. Temporary erosion and sediment control measures such as berms, dikes, drains, or sedimentation basins, if required to meet the above standards, shall be provided and maintained until permanent drainage and erosion control facilities are completed and operative. The area of bare soil exposed at any one time by construction operations shall be held to a minimum. Unless otherwise approved by the Contracting Officer, the Contractor shall apply as soon as practicable an approved temporary mulch on denuded ground. This shall apply to all areas not subject to appreciable traffic during

construction, including areas that are to receive some form of construction later, if ground is to be exposed 60 days or more. Stream crossings by fording with equipment shall be limited to control turbidity and in areas of frequent crossings temporary culverts or bridge structures shall be installed. Any temporary culverts or bridge structures shall be removed upon completion of the project. Fills and waste areas shall be constructed by selective placement to eliminate to the extent practicable silts or clays on the surface that will erode and contaminate adjacent streams or lakes.

8.3 Spillages: Special measures shall be taken to prevent chemicals, fuels, oils, greases, bituminous materials, waste washings, herbicides and insecticides, and cement from entering streams, rivers, or lakes.

8.4 Disposal: Disposal of any materials, wastes, effluents, trash, garbage, oil, grease, chemicals, etc., in areas adjacent to streams shall be subject to the approval of the Contracting Officer. If any waste material is dumped in unauthorized areas the Contractor shall remove the material and restore the area to the condition of the adjacent undisturbed area. If necessary, contaminated ground shall be excavated, disposed of as directed by the Contracting Officer, and replaced with suitable fill material, compacted and finished with topsoil all at the expense of the Contractor.

9. PROTECTION OF FISH AND WILDLIFE: The Contractor shall at all times perform all work and take such steps required to prevent any interference or disturbance to fish and wildlife. The Contractor will not be permitted to alter water flows or otherwise disturb native habitat adjacent to the project area which, in the opinion of the Contracting Officer, are critical to fish or wildlife. Fouling or polluting of water will not be permitted. Wash waters and wastes shall be processed, filtered, ponded, or otherwise treated prior to their release into a river or other body of water.

10. CLEAN-UP: The Contractor shall furnish daily janitorial services for the temporary field office, storage, and other construction buildings on the project site and perform any required maintenance of facilities and grounds as deemed necessary by the Contracting Officer during the entire life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations but will be accomplished only when the buildings are occupied. Services shall be accomplished to the satisfaction of the Contracting Officer.

The Contractor shall also provide daily trash collection and cleanup of the buildings and adjacent outside areas and snow removal in season, and shall dispose of all discarded debris, aggregate samples and concrete test samples in a manner approved by the Contracting Officer.

11. BURNING: No material shall be burned at the project site unless otherwise specified in other sections of these specifications or authorized by the Contracting Officer.

12. DUST CONTROL: The Contractor will be required to maintain all excavations, embankments, stockpiles, haul roads, permanent access roads, plant sites, waste areas, borrow areas, and all other work areas within or without the project boundaries free from dust which would cause a hazard or nuisance to

others. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment or similar methods will be permitted to control dust. Sprinkling, to be approved, shall be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor shall have sufficient competent equipment on the job to accomplish this if sprinkling is used. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

13. MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION: During the life of this contract the Contractor shall maintain all facilities constructed for pollution control under this contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. During the construction period the Contractor shall conduct frequent training courses for his maintenance personnel. The curricula shall include methods of detection of pollution, familiarity with pollution standards, and installation and care of vegetation covers, plants, and other facilities to prevent and correct environmental pollution.

14. PESTICIDES (INSECTICIDES, FUNGICIDES, HERBICIDES, ETC.): Application of all pesticides shall be accomplished by certified pest control personnel or under the supervision of a certified pest control operator. Delivery and storage of pesticides will be monitored by certified personnel to insure the adequacy of containers and the safe storage of toxic materials. Disposal of containers and chemicals will be monitored to prevent pollution of natural drainage systems.

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SECTION 01110

ENVIRONMENTAL PROTECTION SPECIAL PROVISIONS

1. INTRODUCTION

1.1 This section describes the Contractor's responsibilities and obligations to provide for protection from hazardous waste and chemical accidents and spills. The potential for accumulated long-term effects even from seemingly small incidents can be considerably grave, and all spills shall be regarded as critical regardless of size. No matter where a spill incident occurs, some "local" jurisdiction (municipal, State, and Federal land management) has an obligation to protect the public and the environment. The Contractor must be familiar with the local regulations regarding spills. Environmental Protection shall include maintaining the integrity of air, water land, and natural resources and ensuring protection against toxic and conventional contaminants, noise and other pollutants.

1.2 The Contractor shall have on his staff a trained team capable of dealing with a spill. Free training for personnel is usually available from the U.S. EPA, State environmental agencies, or a fire marshal or fire academy.

1.3 All spills occurring during the construction of this project must be reported to the respective authorities, and the Contractor shall bear all costs and liabilities that may arise due to an accident or a spill outside the construction site. If hazardous waste or hazardous waste constituents are discharged, the Contractor shall take appropriate, immediate action (including notifications) to protect human health and the environment.

1.4 DISPOSAL. In compliance with Federal, State, and local regulations that require protection of the environment from mishandling and mismanagement of waste disposal practices, any waste material dumped by the Contractor in an authorized and/or unauthorized area and/or causing any form of contamination shall be removed and the area(s) restored to its (their) original condition(s) at the time specified by the Contracting Officer and at the Contractor's expense. Open burning shall not be permitted. All costs and liabilities due to illegal or mishandled activities must be borne by the Contractor.

1.5 HAZARDOUS WASTE. Disposal practices used must avoid any potential for ground or surface water contamination and shall follow the requirements for loading, hauling, transportation, and disposal specified by Federal, State, and local regulatory authorities. If a spill occurs and contaminates the ground, all contaminated soil shall be excavated, disposed of, and replaced with suitable, fill material, and the area shall be compacted, all at the expense of the Contractor. All contaminated debris shall be disposed of off site in an EPA approved disposal area. Transport vehicles shall be designed to prevent spills and contamination of the environment. Any liabilities that might occur during transportation are the responsibility of the Contractor.

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## SECTION 01300

### SUBMITTALS

#### PART 1 - GENERAL

1.1 GENERAL: Within 10 days after receipt of notice to proceed, the Contractor shall complete and submit to the Contracting Officer, for approval, two computer printouts and one floppy disc of the submittal register listing all submittals and dates, if available. In addition to those items listed in the register, the Contractor will furnish submittals for any deviation from the plans or specifications. Scheduling shall be coordinated with the approved progress schedule. The Contractor's Quality Control representative shall review the listing with the Project Engineer at least every 30 days and take appropriate action to maintain an effective system.

1.2 The Government will make available to the Contractor a disc containing an IBM compatible data base management system for submittal of the original submittal register and 30 day updates. This system requires DBase III+ for operation. DBase III+ will not be made available by the Government. (Refer to DBase software for hardware requirements.) The documentation for the Government system will also be made available. The Contractor may propose an alternate computerized system for Government approval. This system must be menu driven, including a menu screen that guides the user through the options, an input screen that prompts the user for information and all screens should display instructions to assist the user. This system must be able to produce the following reports: 1. All disapproved submittals; 2. All submittals due within two weeks after any reference date; 3. All submittals currently due and not received; 4. All submittals that have been under review for less than 22 days; 5. All submittals that have been under review more than 21 days. In addition the system must be capable of displaying to the screen or printer specified criteria, i.e. a transmittal by specification section, by transmittal number and disapproved transmittals. A user's guide/instruction must be provided along with any required software. Printing the report from the Government data base management system requires a printer capable of printing a 14-inch wide report. Normally, technical specifications are organized into three parts:

- PART 1 - GENERAL
- PART 2 - PRODUCTS
- PART 3 - EXECUTION

1.2.1 A "Project Specific List of Submittals" listing equipment, material, and procedures for which submittals are required by the specifications, is attached at the end of this section. This listing is not considered to be all inclusive and shall not alleviate the Contractor from his responsibility to provide all submittals required in the technical sections. The Contracting Officer may also request submittals that are in addition to those covered in the technical sections.

1.3 PART 1 normally relates to the overall general requirements for the products listed in PART 2. The submittal register should be organized on the basis of products used for the construction process. Sometimes the GENERAL part

has items that are not product oriented. These include: instruction manuals, special skilled worker certification, coordination studies, special system drawings, and the listed shop drawing (SD) requirements. These should be separately submitted items. Products may be listed separately or as a group of products with one transmittal number. If a group of products are listed on an ENG Form 4025, each product should be given an item number. Then each product data sheet should be stamped with the same item number.

1.4 Columns entitled "SCHEDULED SUBMITTAL TO COE" of the register shall be fully completed for each submittal item to show the data called for thereon. Need dates are not required until the schedule is approved. Columns entitled "REVIEWER'S NAME" and "DATE APPROVED/SIGNED" shall be left blank, see Paragraph 1.6.

1.5 Submittals on component items forming a system or that are interrelated shall be scheduled to be correlated and submitted concurrently. A minimum of 30 calendar days, exclusive of mailing time, will be allowed on the register for review and approval of any items requiring Government approval. No delay damages or time extensions will be allowed for time lost due to late submission by the Contractor.

1.6 The Government will review the Submittal Register for approval action. The column designated "Reviewer's Name" will also be completed by the Government. The Government will designate those to be submitted "For Information Only". These will be identified by an "I" in the column entitled "Reviewer's Name". A copy of the Submittal Register (printout), so marked in the "Reviewer's Name" column, will be returned to the Contractor. Those items marked "For Information Only" submittal shall be subject to review action by the Contracting Officer. Any such "For Information Only" submittals found to contain errors or omissions shall be resubmitted. No adjustment for time or money will be allowed for corrective action required as a result of noncompliance with plans and specifications.

1.7 The approved register will become part of the contract and the Contractor will be subject to requirements therein. The Contractor shall revise and/or update the register every 30 days to take into account all changes in the contract and the current construction schedule. Copies of updated or corrected registers shall be submitted to the Contracting Officer at least every 60 days in the same format and copies required for the original register.

1.8 It is essential that submittals and current construction progress be thoroughly coordinated. The dates in columns under the heading "SCHEDULED SUBMITTAL TO COE" shall be realistic, and shall provide sufficient lead time for the respective construction activity (as indicated on the approved progress schedule). Failure to comply with this requirement will be cause for rejection of the Submittal Register.

1.9 The Contractor shall submit all items listed on the contract drawings and listed or specified in Section 02000 and beyond of these specifications. The Contracting Officer may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective sections. Units of weight and measurements used on all submittals shall be the

same used in the contract drawings. Each submittal shall be complete and in sufficient detail for ready determination of compliance with the contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (C.Q.C.) Manager who shall certify by signature on the ENG Form 4025 that he has reviewed the submittal in detail and that it is correct and in strict conformance with the contract drawings and specifications except as may be otherwise explicitly stated. Submittals shall include such items as: Contractor's, manufacturer's or fabricator's drawings; HVAC control descriptions; descriptive literature including (but not limited to) catalogue cuts, diagrams, operation charts or curves; samples, O&M manuals including parts lists; certifications; warranties and other such required submittals. Submittals pertinent to materials and equipment which are specified to receive advance approval shall be scheduled and made prior to the acquisition or the delivery thereof. Each required submittal which is in the form of a drawing shall be submitted as one (1) reproducible and four (4) prints of the drawing for Division 15 and 16 submittals, and one (1) reproducible and three (3) prints for all others. Drawing prints shall be either blue or black line permanent-type prints on a white background. Reproducibles shall be brownline diazo or sepia and shall be of such quality that prints made therefrom are sufficiently clear for microfilm copying. A shop drawing submitted without a reproducible drawing will not be reviewed and will be automatically returned. All catalog and descriptive data shall be submitted in 4 copies. Catalog cuts and other descriptive data which have more than one model, size, or type or which shows optional equipment shall be clearly marked to show the model, size, or type and all optional equipment which is proposed for approval. Submittals on component items forming a system or that are interrelated shall be submitted at one time as a single submittal in order to demonstrate that the items have been properly coordinated and will function as a unit. All submittals shall be mailed or delivered directly to the address shown below.

Resident Engineer  
U.S. Army, Corps of Engineers  
Cannon Resident Office  
Cannon Air Force Base, NM 88103

1.9.1 All samples, except for those required to be submitted to the Division Lab, shall be submitted to the Resident Engineer. In addition to the copies specified above, one courtesy copy of each submittal sent to the Albuquerque District Office should be forwarded to the Resident Engineer.

1.10 The Transmittal Form (ENG 4025) attached to this Section shall be used for all submittals and shall be completed in strict accordance with the instructions on the reverse side thereof. This form shall be reproduced by the Contractor. (The instructions on the back need not be reproduced on the copies used by the Contractor in forwarding the submittals.) This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care should be exercised to insure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item. A separate submittal form (ENG 4025) shall be attached to each copy of the data being submitted. Only one specification section shall be addressed on a transmittal form except where required for system submittals. In addition, a Submittal Review Verification

Sheet will accompany each copy of the submittal. The Submittal Review Verification Sheet is attached to this section and will be reproduced by the Contractor.

1.11 All proposed variations requested by the Contractor shall be checked in Column "g", and noted in the "Remarks" column of the ENG Form 4025. The Contractor shall set forth in writing the reason for any variation and annotate such variation on the shop drawing. The Government reserves the right to rescind inadvertent approval of shop drawings containing unnoted variations.

1.11.1 Approval by the Contractor shall be accomplished by stamping each shop drawing sheet and by inserting the required information with a stamp similar to the following:

CONTRACTOR (Firm Name)	
<input type="checkbox"/>	Approved.
<input type="checkbox"/>	Approved with corrections as noted on shop drawings and/or attached sheets.
SIGNATURE:	_____
TITLE:	_____
DATE:	_____

1.12 The approval of the submittals by the Contracting Officer or his authorized representative shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Approval will not relieve the Contractor of the responsibility for any undiscovered error because the Contractor, under the Contractor Quality Control requirements of this contract, is responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work. After submittals have been approved by the Contracting Officer or his authorized representative, no resubmittal for the purpose of substituting materials or equipment will be given consideration unless accompanied by an acceptable explanation as to why a substitution is necessary.

1.13 The Contractor shall make all corrections required by the Contracting Officer or his authorized representative and promptly furnish a corrected submittal in the form and number of copies as specified for initial submittals. (If a submittal requires extensive revisions, it will be returned to the Contractor with comments by serial letter for correction prior to approval.) If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, notice as required under the Contract Clause entitled "CHANGES" should promptly be given to the Contracting Officer.

1.14 Payment for materials incorporated into the work will not be made if required approvals have not been obtained.

1.15 Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in 4 copies. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the specific item trade name, and model number, if applicable. The certification shall contain the specification/test identification to which compliance is being certified. A general statement that item complies with all requirements is not acceptable. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.16 Each purchase order issued by the Contractor or his subcontractors for materials and equipment to be incorporated into the project shall (1) be clearly identified with the applicable DA contract number, (2) carry an identifying number, (3) be in sufficient detail to identify the material being purchased, (4) indicate a definite delivery date, and (5) display the DMS priority rating. Copies of purchase orders shall be furnished to the Contracting Officer when the Contractor requests assistance for expediting deliveries of equipment or materials, or when requested by the Contracting Officer for the purpose of quality assurance review.

1.17 If the Contractor elects to install mechanical and/or electrical equipment of size, shape, or arrangement differing from those shown and specified in mechanical rooms with limited available space, he shall prepare and submit room plans for such mechanical rooms or similar areas.

1.17.1 Submittals describing the various mechanical and electrical equipment items which are to be installed in the above described area(s) shall be assembled and submitted concurrently and accompanied by the room plans. If some items have already been submitted, their transmittal number shall be identified.

1.17.2 Plans, consolidated for all trades, shall be to scale and shall show all pertinent structural features and other items such as doors, windows, and cabinets required for installation and which will affect the available space. All mechanical and electrical equipment and accessories shall be shown to scale in plan and elevation and/or section in their installed positions. All duct work and piping shall be shown. All clear spaces required for equipment maintenance shall also be shown.

1.18 Performance Evaluation of Contractor. Since the Contractor's Quality Control personnel are required to review all submittals for contract compliance before forwarding to the Government, the Quality of Work and Effectiveness of Management performance elements of the final Performance Evaluation will be based in part on the number of submittals disapproved by the Government. An unsatisfactory rating in any element may adversely effect future awards of Department of Defense contracts to the Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

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TITLE AND LOCATION: LANDFILL #5, CELL #3, SOIL CAP  
CANNON AFB

\* CONTRACTOR:  
\*

\* SPECIFICATION SECTION:  
\*

NAS CODE (a)	ITEM NO. (b)	SPECIFICATION PARAGRAPH NO. (c)	DESCRIPTION OF SUBMITTAL (d)	TYPE OF SUBMITTAL (e)*	CLASS (f)**	CONTRACTOR SUBMITTAL DATES		CONTRACTOR ACTION		GOVERNMENT ACTION		REMARKS (o)
						APPROVAL NEEDED BY (g)	MATERIALS NEEDED BY (h)	DATE (i)	CODE (j)	DATE (k)	GOVT SUBMIT TO (l)	
		02050-1.4	RECORDS	SD-18								
		02110-1.04	PERMIT FOR DISPOSAL ON PRIVATE PROPERTY	SD-91								
		02210-1.05	TESTING LAB QUALIFICATIONS	SD-39								
		02210-1.05	DENSITY TESTS	SD-70								
		02210-1.05	MOISTURE-DEMSITY TESTS	SD-70								
		02210-1.05	SATISFACTORY MATERIAL SOURCE	SD-70								
		02210-1.05	BORROW PIT OPENING NOTICE	SD-91								
		02210-3.10	CALIBRATION CURVES	SD-70								

\* See SECTION 01300 for descriptions of the Types of Submittals.

\*\* CLASS = CLASSIFICATION where I indicates "Government Approved" submittals AND II indicates "For Information Only" submittals.

CONTRACT NUMBER:

MASTER LIST OF SUBMITTALS

RECORD NO.	TRANS NO.	SPECIFICATION PARAGRAPH NO.	DESCRIPTION OF SUBMITTAL	SCHEDULED TYPE	SCHEDULED SUBMITTAL TO COB	SCHEDULED APPROVAL NEED BY DATE	SCHEDULED MATERIAL NEED DATE	TRANSITTAL DATE	DATE RECEIVED BY COB	DATE TO REVIEW	DATE REVIEWED	DATE APPROVED/ SIGNED	DATE TO CONTRACTOR	CODE	REVIEWER'S NAME
------------	-----------	-----------------------------	--------------------------	----------------	----------------------------	---------------------------------	------------------------------	-----------------	----------------------	----------------	---------------	-----------------------	--------------------	------	-----------------

**SAMPLE**

**SUBMITTAL REGISTER FORM**



## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG Form 4288 for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal; letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column h, to each item submitted. In addition, they will ensure inclosures are indicated and attached to the form prior to return to the contractor.

### THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- |  |   |
|--|---|
| A -- Approved as submitted.  | E -- Disapproved (See attached).  |
| B -- Approved, except as noted on drawings.  | F -- Receipt acknowledged.  |
| C -- Approved, except as noted on drawings.<br>Refer to attached sheet; resubmission required. | FX -- Receipt acknowledged, does not comply<br>as noted with contract requirements. |
| D -- Will be returned by separate correspondence.  | G -- Other (Specify)  |

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

SUBMITTAL REVIEW VERIFICATION SHEET

DATE \_\_\_\_\_

SUBMITTAL NO. \_\_\_\_\_

(CONTRACTOR'S STAMP)

DESCRIPTION OF ITEMS REVIEWED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CORPS OF ENGINEERS' STAMP

<b>U.S. ARMY ENGINEER DISTRICT. ALBUQUERQUE CORPS OF ENGINEERS CERTIFIED FOR APPROVAL AS INDICATED BELOW</b>	
<b>A</b>	<b>— APPROVED AS SUBMITTED</b>
<b>B</b>	<b>— APPROVED, EXCEPT AS NOTED ON DRAWINGS AND/OR ATTACHED SHEET(S). RESUBMISSION NOT REQUIRED</b>
<b>C</b>	<b>— APPROVED EXCEPT AS NOTED ON DRAWINGS. REFER TO ATTACHED SHEET. RESUBMISSION REQUIRED.</b>
<b>D</b>	<b>— WILL BE RETURNED BY SEPARATE CORRESPONDENCE</b>
<b>E</b>	<b>— DISAPPROVED. SEE COMMENTS ON ATTACHED SHEET.</b>
<b>F</b>	<b>— RECEIPT ACKNOWLEDGED.</b>
<b>G</b>	<b>— OTHER (SPECIFY)</b>
<b>NOTE: ITEMS APPROVED AS TO GENERAL LAYOUT ONLY. DIMENSIONS &amp; QUANTITIES NOT CHECKED. APPROVAL DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITIES FOR ANY ERRORS WHICH MAY EXIST AS CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONS AND DESIGN OF ADEQUATE CORRECTIONS. DETAILS AND SATISFACTORY CONSTRUCTION OF WORK.</b>	
SIGNATURE _____	DATE _____

REVIEWER'S SIGNATURE \_\_\_\_\_

SECTION 01310

PROGRESS SCHEDULE

1. CONTRACTOR-PREPARED CONSTRUCTION SCHEDULE. Pursuant to the Contract Clause entitled "SCHEDULE FOR CONSTRUCTION CONTRACTS" the Contractor shall prepare a schedule of construction utilizing a construction progress chart as described herein.

1.1 Construction Progress Chart. Construction progress charts shall be prepared on ENG Form 2454. The Contractor shall submit three copies of the Construction Progress Chart for approval. No progress payments will be made without an approved progress chart.

1.1.1 The Contractor shall prepare the chart with the following considerations. The contract work shall be divided into definable contract features. The WT. column should indicate the percentage of the contract for which each principal contract feature accounts. The vertical lines shall be identified by specific time frames, (i.e., weekly, bi-weekly, monthly) with one space accounting for no more than one month. The Contractor shall identify the date which Notice to Proceed is acknowledged on the chart. The Contractor shall also identify the contract completion date on the chart.

1.1.2 The Contractor shall place bars on the chart to indicate scheduled progress for each feature of work. The Contractor shall note the anticipated percentage complete for each item at the end of each month and at the end of each scheduled block.

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SECTION 01380 - CONSTRUCTION PHOTOGRAPHY

1. The Contractor shall photograph the progress of construction during all stages of construction. Photographs shall be 4" x 6" color. Contractor shall provide the Government a photo album including all photographs taken during the extent of the project.

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## SECTION 01400

### CONTRACTOR QUALITY CONTROL SYSTEM

#### 1. CONTRACTOR QUALITY CONTROL (ER 1180-1-6) (JUL 1986).

1.1 General. The Contractor shall establish and maintain an effective quality control system in compliance with the Contract Clause entitled "INSPECTION OF CONSTRUCTION". The quality control system shall consist of plans, procedures, and organization necessary to provide materials, equipment, workmanship, fabrication, construction and operations.

1.2 Coordination Meeting. Before start of construction, the Contractor shall meet with the Contracting Officer (CO) or his authorized representative (ACO) and discuss the Contractor's quality control system.

#### 1.3 Quality Control Plan:

1.3.1 General. The Government will consider an interim plan for the first 15 days of operation. However, the Contractor shall furnish for acceptance by the Government, not later than 10 days after receipt of Notice to Proceed, the final Contractor Quality Control (CQC) Plan with which he proposes to implement the requirements of Contract Clause entitled "Inspection of Construction". If the Contractor fails to submit an acceptable QC plan within the time herein prescribed, the CO or ACO may withhold funds from progress payments in accordance with the Contract Clause entitled "PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS" until such time as the Contractor submits an acceptable final plan.

1.3.2 The Quality Control Plan. This plan shall include as a minimum, the following:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgement that the CQC staff shall implement the three phase control systems for all aspects of the work specified and shall report to the project manager or someone higher in the Contractor's organization.

b. The name, qualifications, duties, responsibilities and authorities of each person assigned a QC function.

1.3.3 Acceptance of Plan. Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC plan, staffing and operations as necessary to obtain the quality specified.

1.3.4 Notification of Changes. After acceptance of the QC plan, the Contractor shall notify the CO in writing of any proposed change. Proposed changes require approval by the CO or ACO.

#### 1.4 Quality Control Organization.

1.4.1 CQC System Manager. The Contractor shall identify an individual within his organization at the site of the work, who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This individual shall provide inspection of the work to ensure compliance with the contract plans and specifications. This person shall be on the job site at all times that work is in progress. This person shall have as a minimum: three (3) years verifiable experience at the construction skilled-craft foreman level or above; at least three (3) years verifiable experience as a construction Contractor Quality Control Representative.

1.5 Submittals. Submittals shall be as specified in the Section 01300 entitled "SUBMITTALS".

1.6 Control. Contractor Quality Control is how the Contractor assures himself that his construction complies with the requirements of the contract plans and specifications. The controls shall be adequate to cover all construction operations, including both onsite and offsite fabrication, and will be keyed to the proposed construction sequence. The controls shall include at least three phases of control for all definitive features of work as follows:

1.6.1 Preparatory Phase. This shall be performed prior to beginning any work on any definable feature of work. It shall include a review of contract requirements; a check to assure that all materials and/or equipment have been tested, submitted and approved; a check to assure that provisions have been made to provide required control testing; examination of the work area to ascertain that all preliminary work has been completed; and a physical examination of materials and equipment. The Contractor shall attach copies of codes appropriately referenced in the Technical Provisions. The Contracting Officer's Authorized Representative (ACO) shall be notified at least 48 hours in advance of beginning of any of the required actions of the preparatory phase. The results of the preparatory phase actions shall be made a matter of record in the Contractor's Quality Control documentation as required below. Subsequent to the preparatory phase and prior to commencement of work, the Contractor shall instruct applicable workers as to the acceptable level of workmanship required in his CQC plan in order to meet contract specifications.

1.6.2 Initial Phase. This phase starts as soon as a representative portion of the particular feature of work has been accomplished. This phase shall include examination of the quality of workmanship and a review of control testing for compliance with contract requirements. The work shall be inspected for use of defective or damaged materials, omissions, and dimensional requirements. The Contracting Officer's Representative shall be notified at least 24 hours in advance of the inspection of the initial phase. The inspection results shall be made a matter of record in the CQC documentation as required below. The initial phase should be repeated for each new crew to work on site, or if acceptable standards of workmanship are not being met.

1.6.3 Follow-Up-Phase. Daily inspections shall be performed to assure continuing compliance with contract requirements. The inspections shall be made

a matter of record in the CQC documentation as required below. Final follow-up inspections shall be conducted and all deficiencies corrected prior to the start of additional features of work.

## 2. DOCUMENTATION.

2.1 The Contractor shall maintain current records of quality control operations, activities, and tests performed including the work of the subcontractors. These records shall be on an acceptable form and indicate a description of trades working on the project, the numbers of personnel working, the weather conditions encountered, any delays encountered, and acknowledgement of deficiencies noted along with the corrective actions taken on current and previous deficiencies. In addition, these records shall include factual evidence that required activities or tests have been performed, including but not limited to the following:

- a. Type and number of control activities and tests involved.
- b. Results of control activities or tests.
- c. Nature of defects, causes for rejection, etc.
- d. Proposed remedial action.
- e. Corrective actions taken.

2.2 These records shall cover both conforming and defective or deficient features and shall include a statement that supplies and materials incorporated in the work comply with the contract. Legible copies of these records shall be furnished to the CO daily. Preparatory and initial inspections will be documented on an approved form and submitted in duplicate with the quality control report for the day of inspection.

2.3 Deficiency Log. The Contractor shall maintain at the site a deficiency log which includes entries of all deficiencies or departures from contract requirements in the work which the CQC and/or the Government Quality Assurance personnel have noted. The deficiency log shall include the following:

- a. Date deficiency noted.
- b. Name of person noting deficiency.
- c. CQC report number deficiency noted on.
- d. Brief description of deficiency.
- e. Date deficiency correction noted.
- f. The Contractor shall submit for review the deficiency log to the Government at each monthly progress payment request and shall surrender permanently the deficiency log to the Government at completion of the work but prior to final

inspection. The deficiency log shall be made available to the Government for review at all times during the life of the contract.

2.4 The Contractor shall establish and implement a serialized numbering system for letters sent to the Government. The numbering system shall identify the contract number and shall progress sequentially starting with the number one (1) and continuing thereafter without break in numbering. All letters sent to the Government shall include a subject heading, which identifies the Contract Clause Number, Special Clause Number, or Technical Provision Number, and the particular subject item addressed by the letter.

2.5 Notification of Noncompliance. The Contracting Officer will notify the Contractor of any noncompliance with the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his representative at the site of the work, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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## SECTION 01420

### SAFETY

1. SAFETY. The Contractor shall comply with all applicable Federal laws and with such additional measures as the Contracting Officer may find necessary in accordance with the Contract Clause titled: ACCIDENT PREVENTION. Applicable provisions of the Corps of Engineers manual entitled Safety and Health Requirements Manual EM 385-1-1, dated April 1981, revised October 1987, will be applied to all work under this contract. The reference manual may be obtained from the Contracting Officer's Representative, at the job site. EM 385-1-1 is hereby changed in accordance with the paragraphs attached after this Section entitled "INTERIM CHANGE TO EM 385-1-1 - SAFETY AND HEALTH REQUIREMENTS MANUAL.

1.1 Accident Prevention Program. Within fifteen (15) calendar days after receipt of Notice to Proceed, and at least ten (10) calendar days prior to the Safety Prework Conference, four (4) copies of the Accident Prevention Program required by the Contract Clause titled: ACCIDENT PREVENTION shall be submitted for review by the Contracting Officer. The program shall be prepared in the following format:

1.1.1 SWA Form 705 "Accident Prevention Program" fully completed and signed by an officer of the company in Block No. 28.

1.1.2 SWA Form 704 "Job Hazard Analysis" fully completed and signed by an officer of the company. The job hazard analysis is a method in which those hazards most likely to cause a fatality or significant disability are analyzed. Corrective action is then planned in advance which will eliminate the hazards. A written analysis is required for each phase of work and shall be presented at the preparatory inspection (P/I) meeting. On large or complex jobs the first phases may be presented in detail with the submittal of the Accident Prevention Program rather than presenting the complete analysis initially. If the plan is to be presented in phases, a proposed outline for future phases must be submitted as a part of the initial Accident Prevention Program submittal. The Accident Prevention Program will be reviewed for timeliness and adequacy at least monthly by the Contractor and noted as such on the Contractor's Quality Control Report at that time.

1.1.3 Copy of company policy statement on accident prevention and any other guidance or indoctrination provided to new employees. In addition, a description of the employee and supervisor safety responsibilities and authorities from the working level up through each supervisory level of the Contractor's organization shall be provided.

1.1.4 In addition to those contained in EM 385-1-1, Appendix "Y", include the following items in the Accident Prevention Program:

1.1.4.1 Hard Hat Area. A statement that the job site is classified a "hard hat" area from start to finish.

1.1.4.2 Sanitation and Medical Requirements. Estimate of the greatest number of employees, supervisors, etc., to be working at peak construction period, including sub-contractor personnel. Include sanitation and medical facilities planned for the job site.

1.1.4.3 Equipment Inspection. What type of inspection program on cranes, trucks, and other types of construction equipment does the Contractor plan to implement. Who will be responsible for the inspection and how does the Contractor plan to control equipment of sub-contractors and equipment brought to the job site by rental companies. Types of records to be kept.

2. WORK SAFETY INCENTIVE AND OTHER ITEMS. The Contractor shall provide a plan to encourage all employees to work safely. This plan shall be directed at the individual employee and shall be so designed such that it motivates all employees toward a safe work attitude. The plan shall be designed to be a positive incentive plan and must include a tangible reward and benefit to the individual employee. The reward frequency shall be at least once a month. The "Work Safety Incentive Plan" must be integrated into the overall "Accident Prevention Plan" which must be approved prior to the start of construction.

3. ACCIDENT REPORTS. The Contractor shall immediately report all accidents by telephone to the Contracting Officer. The Contractor Initial Report of Accident form shall be submitted by the following day to the Contracting Officer (See Contractor Initial Report of Accident form, attached.) The Contractor shall complete and submit ENG Form 3394 for all lost time accidents within 3 days of the accident.

3.1 Monthly Exposure Report. The Contractor shall submit SWD Form 743-J, Monthly Exposure Report, to the Contracting Officer no later than the 5th of each month. This report is a compilation of manhours worked each month by the prime contractor and each subcontractor.

4. CLEANUP. The Contractor's accident prevention program shall identify the individuals responsible for cleanup and shall establish a regular cleanup procedure and schedule. If the Contracting Officer determines that cleanup is not being performed satisfactorily, the Contractor shall establish a work crew to perform the continuous cleanup required by the Contract Clause titled: CLEANING UP. The individual(s) appointed to the work crew to perform daily cleanup shall not perform any other duties under this contract, unless approved by the Contracting Officer. The number of individuals appointed to perform cleanup shall be increased as directed by the Contracting Officer until adequate cleanup is maintained.

5. SPECIAL REQUIREMENTS. The following requirements shall be met by the Contractor if applicable:

5.1 Electrical Work: Electrical work will not be performed on or near energized lines or equipment unless specified in the plans and specifications.

5.1.1 Upon request by the Contractor, arrangements will be made for deenergizing lines and equipment so that work may be performed. All outages shall be requested through the authorized representative of the Contracting Officer a minimum of 14 days, unless otherwise specified, prior to the beginning of the requested outages. Dates and duration will be specified.

5.1.2 Upon approval of the Contracting Officer's representative, the following work may be performed with the lines energized using certified hot line equipment on lines above 700 volts, when the following conditions have been met.

5.1.2.1 Work below the conductors no closer than the clearance required in EM 385-1-1 from the energized conductors.

5.1.2.2 Setting and connection of new pretrimmed poles in energized lines which do not replace an existing pole.

5.1.2.3 Setting and removing transformers or other equipment on poles.

5.1.2.4 Installation or removal of hot line connectors, jumpers, dead-end insulators for temporary isolation, etc., which are accomplished with hot line equipment from an insulated bucket truck.

5.1.3 The Contractor shall submit a plan, in writing, describing his method of operation and the equipment to be used on energized lines. Proper certification from an approved source of the safe condition of all tools and equipment will be provided with the plan. The work will be planned and scheduled so that proper supervision is maintained. The Contractor will review his plan with the Contracting Officer's representative prior to being granted permission to perform the work.

5.1.4 No work on lines greater than 600 volts will be performed from the pole or without the use of an insulated bucket truck.

5.1.5 No work will be done on overbuilt lines while underbuilt lines are energized, except for temporary isolation and switching in accordance with 5.1.2.4 hereinbefore.

5.2 Electrical Tools: Hand held electric tools shall be used only on circuits protected by ground fault circuit interrupters for protection of personnel.

5.3 Grounding Generators and Arc Welders: Non-current carrying metal parts of all generators and arc welders shall be grounded.

5.4 Rollover Protective Structures:

5.4.1 R.O.P.S. for rollers and compactors will be certified to meet SAE requirement J1040C.

5.4.2 R.O.P.S., as required by paragraph 18.B.20, EM 385-1-1, includes self-propelled pulverizers.

## 5.5 Radiation Permits or Authorizations:

5.5.1 Contractors contemplating the use of radioactive materials or radiation producing equipment while performing work on this contract must obtain written authorization from the Department of the Army or Department of the Air Force, as applicable.

5.5.2 A 45-day lead time should be programmed for obtaining this written authorization.

5.5.3 When requested, the Contracting Officer's Authorized Representative will assist Contractor in obtaining the required permit or authorization.

5.6 Self-Propelled Elevating Work Platforms: All self-propelled elevating work platforms will be designed, constructed, maintained, used, and operated in accordance with the guidance provided in American National Standard for Self-Propelled Elevating Work Platforms (ANSI A92.6-1990) together with any amendments which may be in force at time contract is awarded.

5.7 Language: For each work group that has employees that do not speak English the Contractor will provide a bilingual foreman that is fluent in the language of the workers. The Contractor will implement the requirements of EM 385-1-1, Para. 01.B.01, 01.B.02, and 01.C.02 through these foremen.

5.8 Guarding of Roofs and Open-Sided Floors: To supplement and emphasize the requirements of Contract Clause "Accident Prevention" and the safety manual, EM 385-1-1, the following is provided:

5.8.1 Perimeter guard rails will be installed on all open-sided floors on multistoried buildings, and on all roof perimeters. Guard rails will be installed as the decking crew completes an area and before any other work starts and will remain intact as long as construction work is in progress in the area.

5.8.2 The Contractor will submit his proposed method of fall protection to the Contracting Officer's Representative as part of his Job Hazard Analysis for approval before beginning roof operations.

6. The Contracting Officer will notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor. The Contractor shall be responsible for subcontractor compliance with this provision. The Contractor shall include the provisions of this clause in all subcontracts involving performance of work at the site. However such provision in the subcontractor's contract shall not relieve the Contractor of his obligation to assure compliance with the provisions of this clause for all aspects of the work.

INTERIM CHANGE TO EM 385-1-1 - SAFETY AND HEALTH REQUIREMENTS MANUAL

1. Page 21, Section 07.A.03, replace with the following:

"07.A.03 - Protective footwear, such as rubber boots, protective covers, ice clamp-ons, steel-toed safety boots, shall be worn by all persons exposed to hazards to the feet (including, but not limited to impact, puncture, slipping, electrical, or chemical hazards).

a. For all activities in which Corps or contractor personnel or official visitors are potentially exposed to foot hazards, the applicable job/activity hazard analysis, accident prevention plan, or project safety plan shall include an analysis of, and prescribe specific protective measures to be enforced for, foot hazards.

b. Footwear providing protection against impact and compressive forces, conduction hazards, electrical hazards, and sole puncture shall meet the applicable requirements of ANSI Z41."

2. Page 143, Section 18.C.05, replace with the following:

"18.C.05 - All load drums on loading-hoisting equipment shall be equipped with at least one positive holding device. This device should be applied directly to the motor shaft or some part of the gear train. It is not necessary that the positive holding device utilize shearing of metal to meet this requirement. Friction surfaces are acceptable."

3. Page 145, add Section 18.C.24 and 18.C.25 which will read:

"18.C.24 - During personnel handling operations load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied platform is in a stationary working position."

"18.C.25 - During personnel handling operations the load hoist drum shall have a system or device on the power train other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited."

4. Page 146, Section 18.D.09, replace with the following:

"18.D.09 - All telescopic boom cranes engaged in standard lift operations (including concrete bucket) should be equipped with a two-block warning feature(s), a two-block damage prevention feature, or an anti-two block device for all points of two-blocking (i.e., jibs, extension, etc.). In addition, all new telescopic boom cranes shall be equipped with a anti-two block device or a two-block damage prevention feature for all points of two-blocking. Cranes that are used exclusively as duty cycle machines (clamshell, dragline, grapple, pile driving operations) are exempt from this requirement but will meet the requirements of ANSI/ASME-B30.5-1989 (as revised). In all cases where cranes are utilized without these safeguards equivalent protection shall be established, documented and approved by the designated authority."

INTERIM CHANGE TO EM 385-1-1 (CONTINUED):

5. Page 146, add Sections 18.D.10 and 18.D.11, which will read:

"18.D.10 - All lattice boom cranes engaged in standard lift crane operations (including concrete bucket) should be equipped with a two-block warning feature which functions for all points of two-blocking. Cranes that are used exclusively as duty cycle machines (clamshell, dragline, grapple, pile driving operations) are exempt from this requirement but will meet the requirements of ANSI/ASME-B30.5-1989 (as revised). In all cases where cranes are utilized without these safeguards equivalent protection shall be established and documented and then approved by the designated authority."

"18.D.11 - During personnel handling operations all telescopic and lattice boom cranes shall be equipped with a device which when activated disengages all functions whose movement can cause contact between the load block or overhaul ball and the boom tip (anti-two block device), or a system shall be used which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two-block damage prevention feature). The device or systems must be installed for all points of two-blocking (i.e., job or boom points) and in the case of the anti-two block device the crane must be equipped with automatic brakes on each hoist line; hoist lines not so equipped must be taken out of service while personnel lifts are being made."

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## CONTRACTORS ACCIDENT PREVENTION PROGRAM

Willingness to correct safety hazards detected by the Corps is commendable, but a poor substitute for a positive program that prevents or detects and corrects hazards.

Contractor 1	Contract Name & No. 2		Date 3
Project Superintendent 4	Shifts/day 5	Hour/shift 5a	Maximum employees/shift 5b
Superintendent's training in Corps' safety requirements  6			
Major Units of Equipment  7			
Who will inspect equipment? 8	Inspector's qualifications 8a		Inspection frequency? 8b
Who is responsible for operators' physicals? 9	Location of all records 10	Day and hour weekly safety meeting 11	
Who is responsible for employee training? 12	Who will orient new employees? 13		
Who is responsible for clean-up? 14	Where will drinking water be obtained? 15		
Who will investigate accidents? 16	Who is responsible for providing personal protective equipment? 17		
Name Doctors, Hospitals & Ambulance services with whom arrangements have been made for this contract.			
Doctor  18	Hospital  18a	Ambulance  18b	
What form of communication will be used to summon ambulance?  18c			

Names of first aid attendants having certificates				Types of certificate and expiration date		Names of U.S.C.G. licensed boat operators, type license & expiration date			
19				19a		20			
21 Fire Fighting Equipment				22 First Aid Kits		23 Wash Facilities			
No.	Rating	Type	Location	No.	Type	No.	Type		
				24 Toilets					
				No.	Type				
<p>What flammable or combustible liquids or gases will be on job site?</p> <p>25</p>									
<p>Where and how will flammables and combustibles be stored?</p> <p>26</p>									
<p>Who will be responsible for inspection and maintenance of fire fighting equipment?</p> <p>27</p>									
<p>If the Company has a published statement of safety policy, please transmit a copy with the return of your Accident Prevention Program.</p>									
<p>On a separate sheet submit your proposed layout of temporary buildings and facilities (including subcontractors) and traffic patterns including access roads, haul roads, R.R.s, utilities, etc.</p>									
<p>The _____ will pursue a positive program of training, inspections and hazard control throughout the term of this contract. Mr./Ms. _____          (Company)          Has the responsibility and authority for enforcing them.</p>									
<p>_____          Contractor's Signature</p>					<p>_____          Date</p>				
28									

CONTRACTOR INITIAL REPORT OF ACCIDENT

Date and Time of Accident \_\_\_\_\_ Lost Time \_\_\_\_\_ Property \_\_\_\_\_  
Injury \_\_\_\_\_ Damage \_\_\_\_\_

Contract No. \_\_\_\_\_ Prime \_\_\_\_\_ Sub \_\_\_\_\_

Name of Injured or Equipment Operator \_\_\_\_\_ Occupation \_\_\_\_\_

Social Security No. \_\_\_\_\_ Age \_\_\_\_\_

Extent of Injury \_\_\_\_\_

Equipment or tools involved (Include type, brand, model, age, damage if any)

Description of Accident \_\_\_\_\_

Corrective Action \_\_\_\_\_

Names of Witnesses \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Title \_\_\_\_\_

**JOB HAZARD ANALYSIS**

<b>CONTRACT NO.</b>	<b>PROJECT:</b>	<b>FACILITY:</b>
<b>DATE:</b>	<b>MAJOR PORTION OF WORK:</b>	<b>ESTIMATED START DATE:</b>
<b>ITEM</b>	<b>PHASES OF WORK</b>	<b>SAFETY HAZARD</b>
	<p>Break the job down into its basic steps, e.g., what is done first, what is done next, and so on. You can do this by 1) observing the job, 2) discussing it with the operator, 3) drawing on your knowledge of the job, or 4) a combination of the three. Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually 3 or 4 words are sufficient to describe each basic job step.</p>	<p>For each job step, ask yourself what accidents could happen to the man doing the job step. You can get the answers by 1) observing the job, 2) discussing it with the operator, 3) recalling past accidents or 4) a combination of 3. Ask yourself: Can he be struck by or contacted by anything; can he strike against or come in contact with anything; can he fall, can he be caught in, or between something; can he overexert; is he exposed to gas, radiation, welding rays, etc; for example, acid burns or fumes.</p>
		<p>For each potential accident or hazard ask yourself how should the man do the job step to avoid the potential accident, or what should he do or not do to avoid the accident. You can get your answers by 1) observing the job for leads 2) discussing precautions with the experienced job operators 3) drawing on your experience or 4) a combination of the three. Be sure to describe specifically the precaution a man must take. Don't leave out important details. Number each separate recommended precaution with the same number you gave the potential accident (See center column) that the precaution seeks to avoid. Use simple do or don't statements to explain recommended precautions as if you were talking to the man.</p> <p>For example, "Lift with your legs, not your back," Avoid such generalities as "Be Careful", "Be alert", "Take caution", etc.</p>
<b>CONTRACTOR (SIGNATURE &amp; DATE)</b>		
<b>REPORT DISCUSSED WITH CONTRACTOR/SUPERINTENDENT ON:</b>		<b>RESIDENT ENGINEER (SIGNATURE)</b>
<b>PROJECT ENGINEER (SIGNATURE):</b>		

MONTHLY EXPOSURE REPORT OF OPERATIONS AND ACTIVITIES	Reports Control Symbol DAEN-30-1 (RI)	Date:
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Read instructions below.

Monthly report of accident and exposure data as required by the Accident Prevention Article of contract shown below.

THRU: _____ ENGINEER	TO: District Engineer	Contractor:
		Contract Number:

		<u>Total Manhours</u>						
Prime-Contractor	Administrative, Professional & Supervisors	MH	( )	( )	( )	( )	( )	_____
	Skilled & Common Labor	Date	( )	( )	( )	( )	( )	_____
Sub-Contractor	_____	MH	( )	( )	( )	( )	( )	_____
	_____	Date	( )	( )	( )	( )	( )	_____
" "	_____	MH	( )	( )	( )	( )	( )	_____
" "	_____	Date	( )	( )	( )	( )	( )	_____
" "	_____	MH	( )	( )	( )	( )	( )	_____
" "	_____	Date	( )	( )	( )	( )	( )	_____
" "	_____	MH	( )	( )	( )	( )	( )	_____
" "	_____	Date	( )	( )	( )	( )	( )	_____
Sub-total this page								_____
Sub-total reverse side								_____
Grand Total								_____

(Add additional names on reverse side)

ENG Form 3394, MISHAP REPORT, submitted this period: Disabling Injuries _____  Amount Property Damage (in excess of \$300) _____	Submitted by: _____  <div style="text-align: center;">(Contractor)</div>
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- Instructions:
1. This report to be submitted in duplicate by each prime contractor as directed by Contracting Officer, or Authorized Representative.
  2. The above figures include all operations directly supporting the contract. They do not include offsite operations not on government property or under government supervision which supply projects other than this contract. Neither do they include materials supplied F.O.B. the job site.
  3. Above figures include overtime, etc.
  4. Figures will cover regular pay periods without allowing for calendar month. This method automatically corrects the log every three months as eight months will have four pay periods and four months will have five pay periods.

Cont'd from other side

Total Manhours

Sub-Contractor	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )
" "	MH	( )	( )	( )	( )	( )	( )	( )
" "	Date	( )	( )	( )	( )	( )	( )	( )

ARMY MOTOR VEHICLE MILEAGE

	<u>Passenger Cars</u>	<u>Truck Mileage</u>	<u>Total</u>
Vehicles on civil works inventory	_____	_____	_____
Vehicles on military works inventory	_____	_____	_____
GSA vehicles	_____	_____	_____
All Other (Loaned, rented, leased and privately owned)	_____	_____	_____

Submitted by: \_\_\_\_\_  
(COE Engineer in Charge)

## SECTION 01430

### EMERGENCY RESPONSE AND WORK SAFETY PROCEDURES

#### 1. GENERAL

1.1 PURPOSE AND BACKGROUND. This section describes the minimum health, safety, and emergency response requirements for this project. Using this section as a guideline, the Contractor shall develop a detailed Health, Emergency Response, Safety, Fire Protection, Decontamination, and Environmental Protection Plan (HESDEP). The program must establish in detail the procedure necessary for protecting the worker and others from the hazards associated with the closure of Cell No. 3 of Landfill Area 5 at Cannon Air Force Base (CAFB) New Mexico.

1.2 HEALTH AND SAFETY PROGRAM. The Health and Safety Program for this project shall be based on the requirements of the OSHA Standards for General Industry, 29 CFR 1910 (including the interim final rule, Hazardous Waste Operations and Emergency Response), the Construction Industry, 29 CFR 1926, and/or the EPA Standard Operating Safety Guides, November 1984, whichever provides the greatest degree of protection.

1.3 ACCIDENT PREVENTION PROGRAM. As part of the HESFDEP, the Contractor shall submit a proposed Accident Prevention Program (Emergency Response, Fire Protection, Decontamination, etc.) that will be followed by Contractor and subcontractor personnel including supervisory staff, during performance of the work.

#### 2. STAFF AND QUALIFICATIONS.

##### 2.1 STAFF.

2.1.1 Certified Industrial Hygienist. The Contractor must provide the services of a Certified Safety Professional (CSP) who shall be on site and shall be responsible for the implementation and enforcement of the Health and Safety Program. The qualifications and experience of the Contracting Officer. If the Contracting Officer determines that personnel assigned are not providing adequate health and safety controls, the Contractor shall obtain the services of additional health and safety personnel at no additional cost to the Government.

##### 2.2 QUALIFICATIONS.

2.2.1 Certified Safety Professional. The CSP shall have worked in health and safety for a minimum of 5 years in an industry with hazard similar to those anticipated in this project (e.g., excavation, potential exposure to hazardous substances). The CSP shall have a sound working knowledge of State (i.e., New Mexico) and Federal occupational health and safety regulations, and formal training in occupational health and safety. The individual's name and work experience shall be submitted to the Contracting Officer of approval prior to commencement of work at the site.

### 3. WORK STAGES.

Work stages shall be established to ensure that each employee is properly equipped with the personal protective equipment needed to safely complete his/her task (see paragraph 5-Personal Protective Equipment Program). The stages are defined as follows:

3.1 STAGE I. Preparation of subgrade, root picking, smooth finishing and compaction of existing cap of Cell No. 3 of Landfill Area 5.

3.2 STAGE II. Excavation, loading, transportation, placement, compaction, and grading of various soil layers in the final cover, including installation of polymeric membrane, geotextile fabric and PVC venting system.

3.3 STAGE III. Construction of fences.

4. WORK ZONES. Work zones shall be established to contain contamination within the smallest area possible. The Contractor shall ensure that each employee is trained in the use of the proper personal protective equipment for the area or zone in which he/she is to work. Zone requirement shall conform the EPA Standard Operating Safety Guides, November 1984.

4.1 EXCLUSION ZONE. The Exclusion Zone will require different levels of protective equipment depending on the exposure potentials. The required protective equipment for use by personnel working or entering the Exclusion Zone is specified in paragraph 5-Personal Protective Equipment Program.

4.2 CONTAMINATION REDUCTION ZONE. This area shall be established as a buffer between the Exclusion Zone and the Support Zone. The decontamination facilities for all equipment, including personal protective equipment, shall be located within the Contamination Reduction Zone for this site. Containers shall be provided for proper disposal of used clothing. Emergency equipment, such as self-contained breathing apparatus, emergency showers, and eyewash facilities, must be located in this zone. The personal protective equipment required for use by personnel working in this area is specified in paragraph 5-Personal Protective Equipment Program.

4.3 SUPPORT ZONE. The Support Zone shall include the remaining "clean" areas of the job site. Change rooms, lunch and break supplies, and equipment storage and maintenance areas shall be located in this area. Eating, smoking, and drinking will be allowed only in this area.

5. PERSONAL PROTECTIVE EQUIPMENT PROGRAM. Construction operations under this contract will require work in hazardous environments. The Contractor shall ensure adequate protection for all onsite employees. The Contractor shall establish and maintain a complete program as part of the HESDEP for all personnel visiting or working at the site, including support for five Government employees at any time they may be required to monitor the Contractor's work. The Contractor must provide for selection, fit, and testing as required in 29 CFR 1910.134 and ANSI 288.2 (1980). The Contractor shall submit the detail of the program for acceptance as part of the HESFDEP.

5.1 PROGRAM ELEMENTS. The Contractor's Personal Protective Equipment Program shall provide protection against exposure to hazardous substances identified at the site. For chemicals detected at this site refer to Special Clauses CORE SAMPLE RESULTS. The program shall include the following element as a minimum and shall be approved by the Contracting Officer before work commences:

- o Medical surveillance;
- o Industrial hygiene support;
- o Employee training;
- o Complete respiratory program;
- o Eye protection;
- o Skin protection;
- o Emergency provisions;
- o Record keeping and reporting;
- o Personnel and equipment decontamination
- o Fire protection

5.2 PROGRAM REQUIREMENTS. The Contractor shall provide all personal protective equipment. This equipment must provide protection against any hazardous substance identified on site. The intent of the program is to provide a level of worker protection appropriate to the exposure.

5.3 EQUIPMENT TYPES. The personal protective equipment shall provide hearing, respiratory, skin, and eye protection for personnel during each phase of work.

5.3.1 Respiratory Protection. The Contractor shall prepare a written respiratory protection program in accordance with OSHA 29 CFR 1910.134. Respiratory protection devices shall be provided, inspected and maintained by the Contractor. Individual shall be properly fitted with their own breathing devices. The cartridge and filter shall be changed at the beginning of each 8-hour work shift or more frequently and necessary. A procedure shall be established for ensuring daily cleaning, maintenance, and change of filters

5.3.2 Personal Protective Equipment. All required protective equipment shall be provided and maintained by the Contractor. This equipment shall be provided and maintained by the Contractor. This equipment includes, but is not limited to eyewash/shower equipment, emergency showers, respirators, explosionproof equipment, first-aid kits, fire blankets, fire extinguisher, protective clothing, hardhats, and signs. All equipment shall conform to requirements of the American Industrial Hygiene Association (AIHA), NIOSH National Safety Council, and OSHA.

5.4 EQUIPMENT REQUIREMENTS. Levels of protection for personnel involved in site work will be based in U.S. EPA-specified levels of protection, levels A, B, C, and D. The Contractor's CSP, in coordination with the CIH, shall evaluate the various work activities and air monitoring results and shall determine what protection is warranted.

5.4.1 The Contractor shall provide the Contracting Officer with a detailed personal air monitoring plan for the additional protection of workers. This plan shall be prepared by the Contractors's CIH, as part of the Health and Safety Programs Submittal (see Section 1A, paragraph 7.2), and shall comply with

applicable State of New Mexico regulations, OSHA Instruction CPL 2-2.208 (March 30, 1984), and NIOSH Manual of Analytical Methods (2nd Ed., 1981, and/or 3rd Ed., 1984 and 1985, Supplement No. 84-100). The Contractor shall submit the Air Monitoring Plan prior to any excavation operations. The Contractor shall report any need for change and any unexpected events to the Contracting Officer and obtain his approval for proposed actions. It is important to ensure that personnel are protected against exposure to any of the potentially dangerous and toxic chemicals present.

5.4.2 Personal and area samples for benzene, toluene, and other chemicals present shall be taken during work operations near the hazardous landfill. In addition, air sampling must be preformed to identify other components to which workers may be exposed.

5.4.3 Monitoring for air contaminants must be preformed during construction of the final cover. Since the contaminants have not been fully identified, sampling shall be conducted to (1) determine the workplace concentration of the known or suspected material, particularly benzene and toluene; and (2) identify the unknown materials in the workplace air. The latter type of sampling must be preformed at the start of construction operations, and variety of sample media shall be used to identify the classes of airborne contaminants and their concentrations. Level C protection for subsequent sampling shall be based in initial analytical results and on the Certified Industrial Hygienist's Assessment of potential for exposure.

5.4.4 At least one personal sample and one area sample shall be taken in the immediate work area. In addition, an area sample shall be taken on the Contamination Reduction Zone. When area samples are collected, the sample collection device shall be placed 60 to 66 inches above ground level. The CIH shall determine the best location for sampling. Short-term Exposure Limit (STEL) samples shall be taken at appropriate intervals, as determined by the CIH, to ensure that set STELs are exceeded.

5.4.5 The level of respiratory protection required shall be adjusted based on the analytical results obtained from the samples.

5.4.6 Direct reading instruments shall be used daily during the final cover construction. These instruments shall be operated by individuals experienced in the use, calibration, operating principle, and limitation of such instruments.

5.4.7 The Contractor shall employ a CIH, who shall establish the protocol for all air monitoring. The Contractor shall ensure that experienced personnel perform the monitoring, and that appropriate equipment and methods are utilized. The Contractor shall provide monitoring equipment and the necessary engineering controls and/or personal protective equipment for the employees' protection.

5.4.8 Samples shall be collected and analyzed as prescribed in the NIOSH Manual of Analytical Methods. All chemical analyses shall be preformed by a laboratory accredited by the AIHA.

5.4.9 All monitoring results, with the exception of direct reading instrument results, shall be reported to the Contracting Officer in a timely fashion, within 48 hours. The results shall be reported on specific forms developed by the Contractor. The air monitoring report forms must include the following information:

- o Date of sample;
- o Name of person conducting sampling;
- o Calibration record of equipment used;
- o Sampling method (NIOSH);
- o Description of process/operation;
- o Type of sample (personal/area);
- o Time and duration of sample;
- o Location and height of sample;
- o Distance from source;
- o Weather conditions;
- o Name and job of person sampled;
- o Personal protective equipment worn;
- o Name of laboratory performing analysis;
- o Date of analysis;
- o Name of person performing analysis;
- o Method of analysis;
- o Result of analysis;
- o Type of filter used;
- o Air temperature; and
- o Barometric pressure.

5.4.10 A daily log shall be maintained for recording of direct reading instrument measurements. The log must contain the following information

- o Name of person(s) operating the direct reading monitors;
- o Type of calibration method used before and after every use;
- o Field observation, such as weather conditions during sampling periods;
- o Activity taking place during monitoring;
- o Results of monitoring; and
- o Duration of test.

Direct reading results shall be reported to the Contracting Officer on a daily basis.

5.5 TESTING LABORATORY AND EQUIPMENT. As specified in Section 01430, the Contractor shall determine the necessity of monitoring requirements. The Contractor shall either provide an onsite laboratory with analytical instrumentation and qualified chemists/technicians or (at his option) employ an offsite laboratory to perform all sampling and testing if the job demands analytical work. The laboratory shall be accepted by EPA, licensed in the local State in which the laboratory is located, technically acceptable to the State of New Mexico, and capable of guaranteeing the requirements on Quality Assurance (EPA SW 846) on different tests and analyses to be carried out under this contract. The laboratory analyzing air samples shall be accredited by American Industrial Hygiene Association (AIHA) and licensed in the local State. In

addition, laboratories to be employed must be inspected and approved by the Contracting Officer. Sample turnaround time must be less than ten (10) days for solid/liquid samples and forty-eight (48) hours for air samples. The Contracting Officer may inspect the laboratory, examine analytical data, and provide performance audit samples to be analyzed by the laboratory as a check on performance.

5.6 HANDLING PRECAUTIONS. The CIH, together with other responsible personnel of the Contractor's organization, shall personally examine and evaluate the prevailing onsite conditions and determine the handling precautions needed for construction of a final cover on top of the hazardous waste landfill. The determined handling precautions must include safety and occupational health aspects promulgated by OSHA under 29 CFR 1910.1000. Disposal operations must meet requirements of U.S. EPA Regulations under 40 CFR, Part 165. Storage, handling, and disposal of any other wastes determined to be hazardous must meet the applicable sections of the Resources Conservation and Recovery Act (RCRA), 40 CFR, Parts 260-265.

5.6.1 The Contractor shall provide detailed specifications and precautions for the safe operation of work in his HESFDEP. Protection shall be provided in accordance with OSHA 29 CFR 1926, Subpart E, or 29 CFR 1910, Subpart I.

5.7 MEDICAL SURVEILLANCE. The OSHA Hazardous Waste Operations and Emergency Response Rule requires a Medical Surveillance Program for employees engaged in hazardous waste operations where it is medically prudent. The medical examinations must be made available to employees who may be required to wear respirators or who may be exposed to substances in excess of OSHA limits. The Contractor shall utilize the services of a licensed occupational health physician to provide the medical examinations and surveillance specified herein. The name and qualifications of this physician shall be provided to the Contracting Officer prior to commencement of work at the site.

5.7.1 Medical Examinations. The Contractor shall provide to employees selected for the Medical Surveillance Program, or make available at his cost, medical examinations relative to exposure to identified hazardous chemicals before employees participate in onsite operations and at the conclusion of the work. The Contractor's physician shall also provide a medical certification that each employee is fit for employment on the job and can wear the necessary respiratory protection. Medical examinations shall include a medical history and work history, physical examination that includes vital signs and an evaluation of all major organ systems, audiogram and vision screening, chest x-ray to be performed no more frequently than every 4 years (except when otherwise indicated), electrocardiogram (EKG) for individuals over 35 year of age, complete blood count (CBC), blood chemistry screen (SMAC 23-test survey), urinalysis, and pulmonary function test, which includes forced expiratory volume (capacity) at 1 second (FEV1) and forced vital capacity (FVC). All medical examination results shall be forwarded to the Contracting Officer for record keeping. If a detrimental condition is determined, the Contractor must immediately inform the affected employee, the CSP, and the Contracting Officer.

5.7.2 This evaluation shall be repeated as indicated by substandard performance or evidence of particular stress or chemical exposure that is demonstrated by injury or time-loss illness on the part of the worker.

5.7.3 If employment is terminated for an individual prior to completion of the contract, and examination shall be given.

## 6. EMPLOYEE TRAINING.

6.1 INITIAL TRAINING. The CSP, with support from the CIH, shall be responsible for providing occupational hazard training to all employees prior to the commencement of work. This training shall include the following as a minimum. This shall include successfully completing the 40 hour course "Health and Safety For Hazardous Waste Operations" as required by OSHA 29 CFR 1910.120.

6.1.1 Basic construction safety emphasizing the hazards on this site.

6.1.2 Acute and chronic effects of substances identified at the site. Refer to Special Clauses CORE SAMPLE RESULTS for more details about the waste.

6.1.3 Requirements for personal protection and their effectiveness and limitations.

6.1.4 Selection, fitting, use and limitations of respirators, including as a minimum the following

- o Criteria for respirator selection;
- o Donning techniques for respirators;
- o Use of emergency respirators; and
- o Eyeglass and contact lenses and limitations.

6.2 FOLLOWUP TRAINING. Followup training shall be provided by the Health and Safety Specialist at least weekly and prior to each change in phase of work. The CSP shall also provide initial training for replacement employees.

6.3 RECORDS. The Contractor shall keep a record of all training period, documenting date and acceptance. The Contractor shall also maintain a record of each employee's performance evaluation pertinent to use of personal protective equipment.

## 7. EMERGENCY RESPONSE PLAN.

7.1 The Contractor shall develop a site Emergency Response Plan. This plan shall include, as a minimum, the following:

- o Fire explosion provisions;
- o Emergency spill control;
- o First aid and emergency medical treatment;
- o Communications; and
- o Site evacuation.

7.2 The Contractor shall be responsible for notifying the physician, ambulance service, and fire department of any site hazards before the start of work. The following information from the Emergency Response Plan shall be summarized and posted in the Contractor's trailers;

- o Contractor physician name, address, and telephone number;
- o Ambulance service and fire department telephone number;
- o Detailed, written instructions, including a map that describe the location and route to the cleanup site and route to the nearest hospital;
- o Location of emergency shower/eyewash station;
- o Location of self-contained breathing devices;
- o Location of fire stations or fire extinguishers and procedures in case of potential or actual fire or exposure
- o Specific procedure for handling personnel with excessive exposure to chemical or contaminated soil; and
- o Procedure for prompt notification of Contracting Officer and appropriate Federal and State regulatory agencies.

7.3 EMERGENCY EYEWASH. Portable eyewash unit shall be provided for activities involving the handling of acidic supernatant, sludge, or other materials that may be hazardous to the eyes. These units must be of the variety that maintains suitably temperate water. These units shall be provide close to the work area and protected from possible contamination.

7.4 EMERGENCY MEDICAL CARE. The Contractor shall prearrange for emergency medical care services at a nearby medical facility. The staff at the facility shall be advised of emergency routes to the site, potential medical emergencies that might occur, and possible contamination of the patient's clothing or skin with specific chemicals.

7.5 COMMUNICATION SYSTEM. The Contractor shall provide a communication system as a part of the health and emergency services.

8. PROHIBITIONS. The following are expressly forbidden while working with suspected toxic and flammable chemicals:

- o Eating, smoking, chewing tobacco, chewing gum, drinking;
- o Working when ill;
- o Entering areas or spaces in which toxic or explosive conditions may exist without performing required testing and/or using proper personal protective equipment;
- o Conducting onsite operations without offsite backup personnel immediately available; and
- o Wearing beards and long sideburns that inhibit the use of personal protective equipment. Facial hair, facial features, and/or eyeglasses shall not interfere with the sealing surface of function of respirators.

9. LOGS AND REPORTS. The Contractor shall maintain logs and reports covering the implementation of the Personal Protective Equipment Program. The format shall be developed by the Contractor to include training logs, daily logs weekly reports, and a closeout report to the satisfaction of the Contracting Officer, and these must be accessible to him as requested.

9.1 TRAINING LOGS. The training logs shall include data on both initial training and refresher training such as the following:

- o Employee's name (attendance check);
- o Time allocation in training session;
  - Topics covered,
  - Material used,
  - Materials used,
  - Equipment demonstrated,
  - Equipment practice for each employee,
  - Respirator performance evaluation,
  - Prohibitions covered,
  - Buddy system explanation; and,
- o Date and place of training.

9.2 DAILY LOGS. Daily logs shall include the following as minimum:

- o Date, time, and weather;
- o Area (site-specific) checked;
- o Employees in a particular area;
- o Equipment used by employees;
- o Protective clothing worn by employees;
- o Protective devices used by employees and areas assignment of employees; and
- o CSP signature.

9.3 WEEKLY REPORTS. Weekly reports shall include the following as a minimum:

- o A summary sheet covering the types of work being done;
- o Reports of any of the following incidents:
  - No use of protective devices in an area where required,
  - No use of protective clothing,
  - Disregard of buddy system,
  - Disregard of eating, smoking, and chewing regulations in prohibited areas,
  - Instances of job-related injuries or illnesses and corrective measure taken to avoid repetition of accidents;
- o CSP signature;
- o Copies of daily logs; and
- o Copies of injury-related medical certificates.

9.4 CLOSEOUT REPORT. At the completion of work, the Contractor shall submit a closeout report. The report shall include:

- o Final physical/medical and decontamination certification;
- o Procedures and techniques used to decontaminate;
  - Equipment and vehicles,
  - Shower facility,
  - Portable chemical toilets, etc., and
- o Signature of the Project Superintendent and the CSP, and the date of each signature.

The report shall be submitted to the Contracting Officer prior to final acceptance of the work.

9.5 EMPLOYER OBLIGATION. The Contractor shall be aware that Federal laws, such as OSHA 29 CFR 1910, Subpart C, require that chemical exposure records and/or medical records be maintained by the employer for a specified length of time after termination of the exposure.

9.6 TIME-LOSS ILLNESS. Any employee who develops a time-loss illness or injury during the period of the contract must be evaluated by the Contractor's physician. The supervisor must be provided with a written statement, signed by the physician, indicating the employee's fitness before the employee is allowed to reenter the work site. A copy of the written statement shall be submitted to the Contracting Officer.

#### 10. IDENTIFICATION AND CONTROL.

10.1 GENERAL. A check-in and check-out systems shall be used to assure personnel control, and a record of each employee and piece of equipment is to be maintained for each specific work area. The format shall be submitted as part of the Health and Safety Program.

11. SIGNS. The Contractor shall post the following signs in locations approved by the Contracting Officer:

11.1 Signs shall be posted as required by OSHA regulations on the fence surrounding the area or zone where contamination does or could occur, indicating that it is a hazardous area and that unauthorized entry is prohibited.

11.2 Signs shall be posted directing all visitors to the authorized entrance or security point.

11.3 Sign stating "No Smoking or Open Flames" shall be posted in the area immediately adjacent to any area or zone where contamination with flammable materials does or could occur.

11.4 Temporary fences or barricades shall be used to prevent any person not equipped with the prescribed safety equipment from entering the exclusion zone and also to protect any person or animal from falling into the excavation. The location of the fence shall be decided by the CSP and approved by the Contracting Officer.

12. SUBMITTALS. The following items form a list of the submittals that represent a prerequisite for work to be performed in the hazardous waste area. They shall be presented at the specified times to the Contracting Officer for approval. See paragraph 7.2 of Section 1A-Special Clauses.

12.1 HEALTH AND SAFETY PLAN.

- o Accident Prevention Program-submitted prior to commencement of any work.
- o Safety Plan for each phase of work performed-submitted prior to commencement of work on that phase;
- o Detailed Specifications and Precautions for the safe handling of wastes-submitted prior to commencements of work;
- o Personal Protective Equipment Program-submitted prior to commencement of work; program includes detailed of employee training, emergency response, decontamination, medical surveillance, etc., see paragraph 5.1 for list of elements;
- o Reports covering the implementation of the Personal Protective Equipment Programs-submitted weekly;
- o Identification and Control-submitted prior to commencement of work;
- o Work-rest Schedule-submitted prior to commencement of work and adjusted as required thereafter; and
- o Time Loss-Illness-Physician Report-submitted before allowing an employee to return to the site after a time-loss illness or injury during the period of the contract.

12.2 EMERGENCY RESPONSE PLAN. This plan must be submitted to the Contracting Officer prior to commencement of work on site. See Section 1D, paragraph 7.1 for elements.

12.3 CLOSEOUT REPORT. This report shall be submitted at the completion of work. See Section 1D, paragraph 9.4 for elements.

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## SECTION 01440

### REGULATORY REQUIREMENTS AND SPECIAL PROJECT PROCEDURES

1. SCOPE. This section covers the regulatory requirements and special project procedures for conducting the work.

2. REQUIREMENTS. The Contractor shall conduct all work involved in this project in accordance with appropriate Federal and State (New Mexico) regulations and laws and those of local governments and Cannon Air Force Base (CAFB).

2.1 Regulations. The Contractor shall consider the following regulations as the minimum requirements for conducting the work involved and shall be familiar with these regulations.

2.1.1 Resource Conservation and Recovery Act (RCRA). The Contractor shall be familiar with the provisions of RCRA of 8 November 1984 including subsequent amendments.

- o 40 CFR, Part 260. Hazardous Waste Management System: General;
- o 40 CFR, Part 261. Identification and Listing of Hazardous Waste;
- o 40 CFR, Part 262. Standards Applicable to Generators of Hazardous Waste;
- o 40 CFR, Part 263. Standards Applicable to Transporters of Hazardous Waste;
- o 40 CFR, Part 264. Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities;
- o 40 CFR, Part 265. Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities; and
- o 40 CFR, Parts 240-257. Nonhazardous Solid Wastes.

2.1.2 Toxic Substance Control Act. 40 CFR, Part 761.

2.1.3 Occupational Safety and Health Administration Standard. 29 CFR, Part 1910.

2.1.4 Hazardous Materials Requirements. Department of Transportation, 49 CFR, Subchapter C, Parts 171-179.

2.1.5 New Mexico Administrative Rules and Regulations. Any local restrictions regarding work in areas of hazardous materials (e.g., State, county, and city fire departments and police department).

- o New Mexico Hazardous Waste Management Regulations (HWMR-4), Section 206.

2.2 Execution. The Contractor shall observe the procedures as identified within these regulations, as well as other appropriate regulations and laws, in conducting the work outlined. The Contractor shall be responsible for alerting the proper State and local agencies of the nature and timing of activities that will be occurring at the work site. Prior coordination with CAFB is required.

### 3. SPECIAL PROCEDURES.

3.1 Special project procedures are required of the Contractor due to the potentially hazardous nature of the work. The Contractor shall submit six copies of a detailed plan to implement these procedures within 10 days of contract award. The procedures shall be submitted to the Contracting Officer for approval. The procedures, complete with all comments addressed, shall be made a part of the contract documents before the Contracting Officer issues a Notice to Proceed with the work.

3.2 The Contractor shall implement and maintain these procedures at the appropriate time prior to and during performance of the work.

3.3 The information and criteria in these sections are provided to acquaint the Contractor with the data accumulated to date and to act as a guide to the Contractor for preparing the special project procedures. The Contractor is solely responsible for the content and implementation of all special project procedures.

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SECTION 01580

BULLETIN BOARD, PROJECT SIGN AND PROJECT SAFETY SIGN

1. SCOPE: This section covers a project bulletin board, a project sign, and a project safety sign, complete.

2. GENERAL: Immediately upon beginning of work under this contract, the Contractor shall accomplish the work covered under this section of the specifications. Locations of the bulletin board, the project sign, and the project safety sign shall be as determined by the Contracting Officer.

3. BULLETIN BOARD: Immediately upon beginning of work under this contract, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 x 48 inches in size, for displaying the Equal Employment Opportunity Poster, a copy of the wage decision contained in the contract, Wage Rate Information Poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the site of work in a conspicuous place easily accessible to all employees as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work under the contract is complete. Upon completion of work under this contract the bulletin board shall be removed by and remain the property of the Contractor.

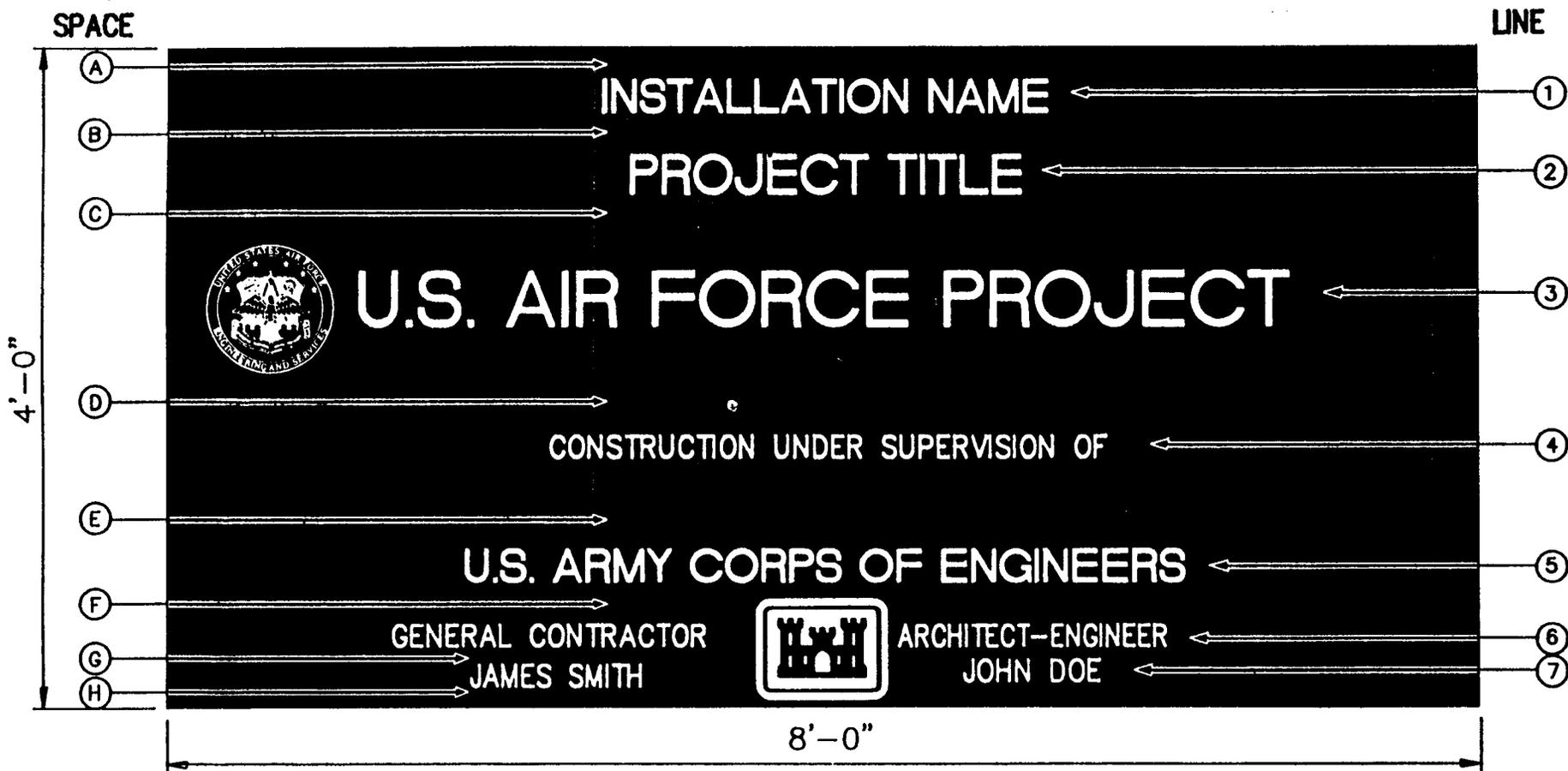
4. PROJECT SIGN: The Contractor shall furnish and erect a project sign in the location as hereinbefore specified. Details of construction shall be as shown on the drawings attached at the end of this section. The sign shall be constructed of 1/2-inch-thick, grade A-C, exterior type plywood. The sign shall receive 2 coats of dark blue, semigloss, exterior type enamel, color number 25053, as shown in Federal Standard 595a and Change Notice No. 1. Lettering shall be as shown on the drawings and shall be an approved white, semigloss, exterior type enamel. Upon completion of work under this contract, the project sign shall be removed from the job site and shall remain the property of the Contractor.

5. PROJECT SAFETY SIGN: The Contractor shall furnish and erect a project safety sign at the Contractor's field office. The safety sign shall be located in a conspicuous place easily within view of all employees and visitors as approved by the Contracting Officer. Details of construction shall be as shown on the drawings attached at the end of this section. The sign shall be constructed of 3/4-inch-thick, grade A-C, exterior-type plywood. The sign shall receive two coats of an approved white, semigloss, exterior type enamel. Lettering shall be as shown on the drawings and shall be semigloss, exterior type enamel of the colors noted on the drawings. The Contractor shall furnish and apply a red decal of the Corps of Engineers' Castle, or may use a stencil in lieu of a decal provided the dimensions are the same. The decal, if used, shall receive a thin coat of clear spar varnish after application. If a stencil is used, the castle shall be painted with an approved red, semigloss, exterior type, enamel. The Contractor shall furnish a sufficient number of sign numbers to cover the length of the contract period and to keep both numbered spaces up to date. The Contractor shall keep the safety sign current by posting the numbers daily in both slots (lines 5 and 6 of sign). Numbers shall be red and the size

indicated on the drawing and shall be of a weatherproof material. Upon completion of work under this contract, the project safety sign shall be removed from the Government-controlled land and remain the property of the Contractor.

6. PAYMENT: No separate payment will be made for the work covered under this section of the specifications and all costs in connection therewith will be considered as a subsidiary obligation of the Contractor, covered by the contract prices in this contract.

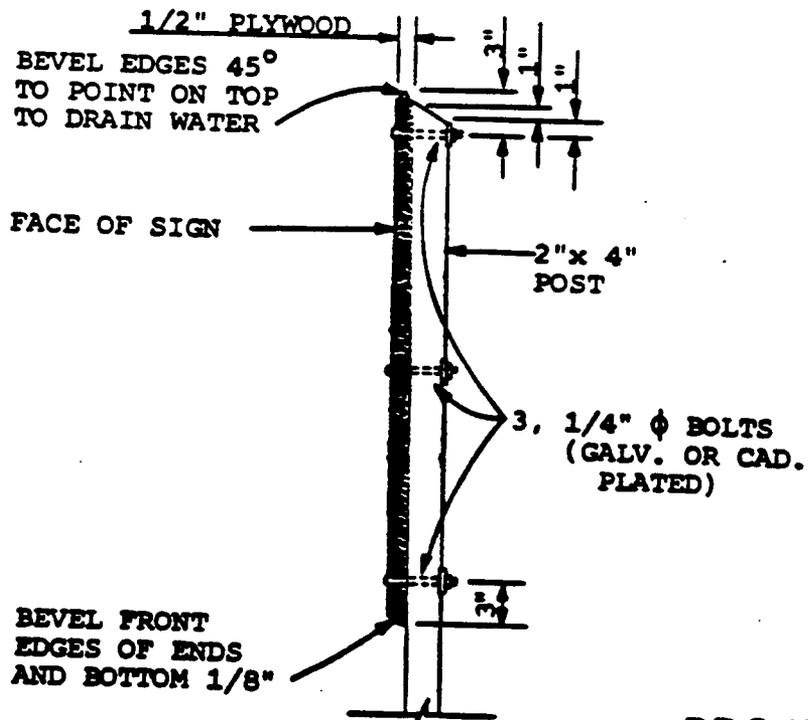
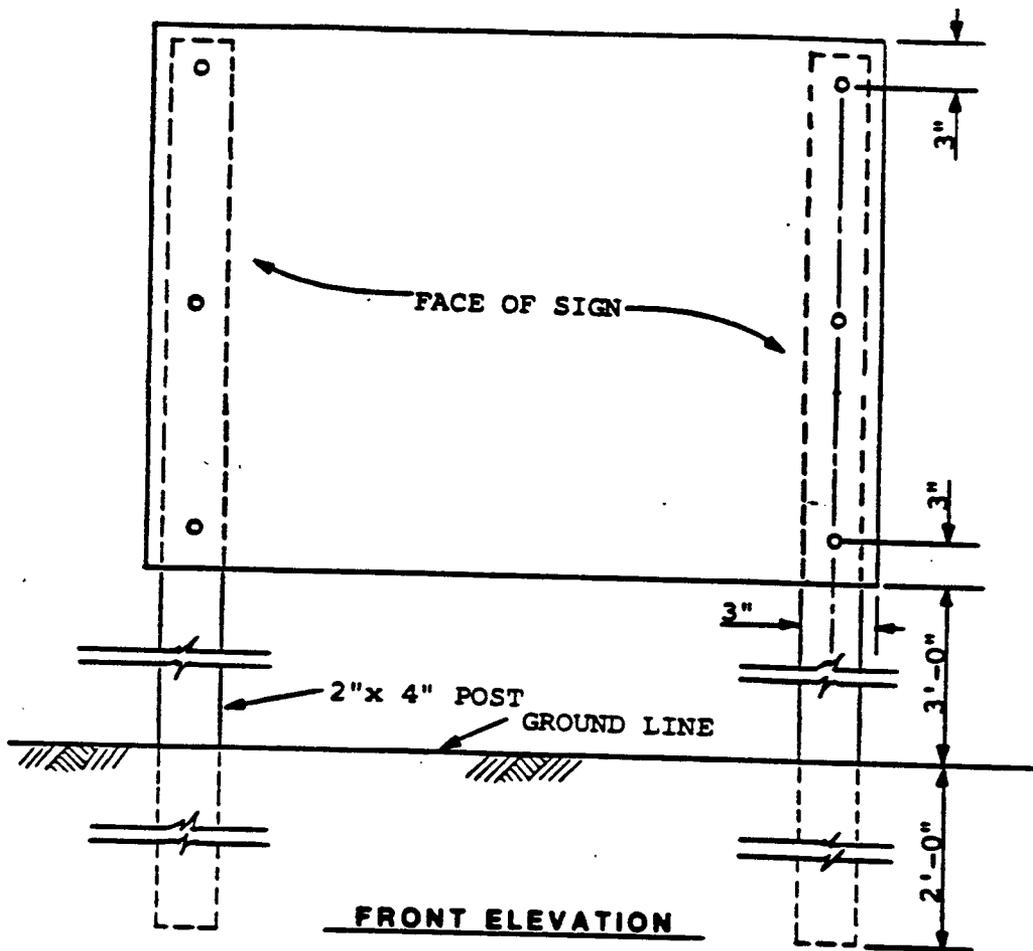
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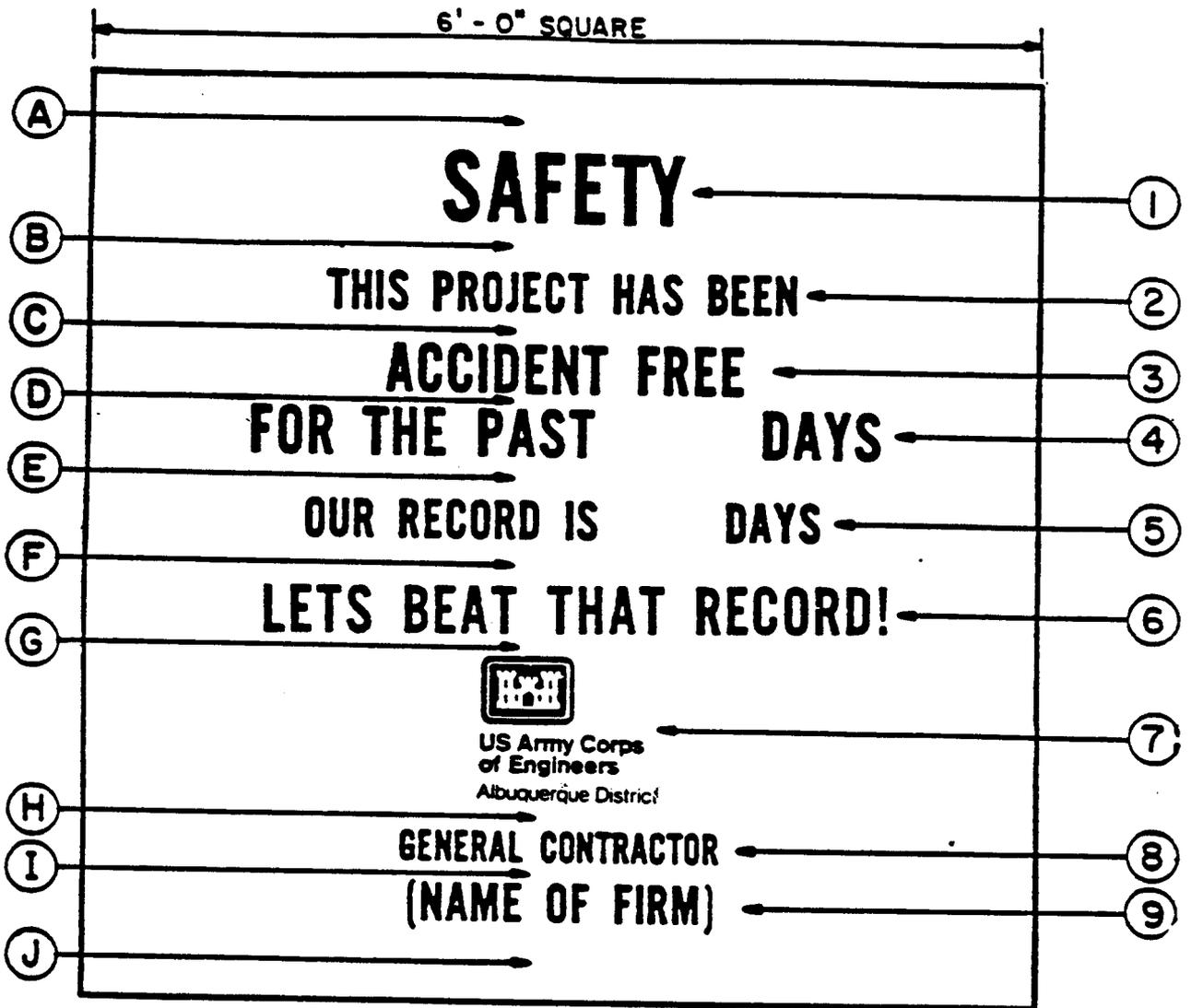
## SAMPLE CONSTRUCTION SIGN FOR MCP PROJECTS

### SCHEDULE

SPACE	HEIGHT	LINE	DESCRIPTION	LETTER HEIGHT	STROKE
A	2 1/2"	1	LOCATION*	2 3/8"	1/4"
B	2 5/8"	2	PROJECT NOMENCLATURE *	2 3/4"	3/8"
C	5 3/4"	3	U.S. AIR FORCE PROJECT	4"	1/2"
D	8"	4	CONSTRUCTION UNDER SUPERVISION OF	1 1/2"	1/8"
E	4"	5	CONSTRUCTION AGENCY*	2 3/8"	1/4"
F	4"	6	GENERAL CONTRACTOR *	1 3/8"	3/16"
G	1"	7	GENERAL CONTRACTOR *	1 3/8"	3/16"
H	4 3/8"		*WILL VARY TO SUIT PROJECT REQUIREMENTS		



**PROJECT SIGN  
DETAILS**



SCHEDULE

<u>SPACE</u>	<u>HEIGHT</u>	<u>LINE</u>	<u>LETTER HEIGHT</u>	<u>STROKE</u>	<u>COLOR</u>
Ⓐ	5 1/2"	①	5"	1 1/4"	RED
Ⓑ	4"	②	2 3/4"	1/2"	BLACK
Ⓒ	1 1/2"	③	3 1/2"	3/4"	RED
Ⓓ	1"	④	3 1/2"	3/4"	RED
Ⓔ	3"	⑤	2 3/4"	1/2"	BLACK
Ⓕ	3"	⑥	3 1/2"	3/4"	BLACK
Ⓖ	4"	⑦ (CASTLE)	(6"X10")		RED
1" SPACE BETWEEN CASTLE & LETTERING		US ARMY CORPS OF ENG FORT WORTH DISTRICT	2"	3/8"	BLACK
Ⓗ	4"	⑧	2"	1/4"	BLACK
Ⓘ	2 1/2"	⑨	2 1/2"	3/8"	BLACK
Ⓙ	5 1/2"				

NOTE: Lettering styles to be similar to those illustrated

**PROJECT SAFETY SIGN LAYOUT**



## SECTION 01720

### AS-BUILT DRAWINGS

1. SCOPE: This section covers as-built drawings, complete.
2. AS-BUILT DRAWINGS:

2.1 General: The Contractor shall furnish one full-size set of blue-line prints and one full-size set of reproducible drawings for use in preparation of as-built drawings. The as-built drawings shall be a record of the construction as installed and completed by the Contractor. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the work, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work. In event the Contractor accomplishes additional work which changes the as-built conditions of the facility after submission of the as-built drawings, the Contractor shall furnish revised and/or additional drawings as required to depict as-built conditions. The requirements for these additional drawings will be the same as for the as-built drawings included in the original submission.

2.2 Preliminary As-Built Drawings: The Contractor shall mark up one set of paper prints and an identical markup on the reproducible to show the as-built conditions. These as-built marked prints shall be kept current and available on the jobsite at all times. Subject to the approval of the Contracting Officer, a member of the Contractor's Quality Control Organization shall be assigned sole responsibility for the maintenance and currency of preliminary as-built drawings. Any reassignment of duties concerning the maintenance of the as-built drawings shall be promptly reported to the Contracting Officer. All changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. All changes and/or required additions to the paper prints shall be clearly identified in a color contrasting to blue, preferably red. The as-built marked prints will be jointly inspected for accuracy and completeness by the Contracting Officer's representative and the assigned representative of the Contractor's Quality Control Organization prior to submission of each monthly pay estimate. (See paragraph: Withholding for Preliminary As-Built.) The as-built drawings shall show the following information, but not be limited thereto.

2.2.1 The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location of exterior utilities includes actual measured horizontal distances from utilities to permanent facilities/features. These measurements shall be within an accuracy range of six inches and shall be shown at sufficient points to permit easy location of utilities for future maintenance purposes. Measurements shall be shown for all change of direction points and all surface or underground components such as valves, manholes, drop inlets, clean outs, meter, etc. The general depth range of each underground utility line shall be shown (i.e., 3' to

4' depth). The description of exterior utilities includes the actual quantity, size, and material of utility lines.

2.2.2 The location and dimensions or any changes within the building or structure.

2.2.3 Correct grade or alinement of roads, structures or utilities if any changes were made from contract plans.

2.2.4 Correct elevations if changes were made in site grading.

2.2.5 Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

2.2.6 The topography and grades of all drainage installed or affected as a part of the project construction.

2.2.7 Options: Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the as-built drawings.

2.2.8 As part of the prefinal inspection, the preliminary as-built drawings will be reviewed. They must comply with this specification prior to scheduling the final inspection, and/or prior to substantial completion of the project.

2.2.9 Submittal to Contracting Officer for Review and Approval: One copy of the preliminary as-built marked prints and one copy of the preliminary as-built reproducibles shall be delivered to the Contracting Officer before the time of final inspection for his review and approval. Final inspection will not be scheduled by the Contracting Officer until preliminary as-built drawings have been approved. The review by Government personnel will be expedited to the maximum extent possible. Upon approval, one copy of the as-built marked prints will be returned to the Contractor for use in preparation of final as-built drawings. If upon review, the drawings are found to contain errors and/or omissions, they shall be returned to the Contractor for corrections. The Contractor shall complete the corrections and return the drawings to the Contracting Officer within ten (10) calendar days.

2.2.9.1 Withholding for Preliminary As-Built: Failure by the Contractor to maintain current and satisfactory as-built drawings in accordance with these requirements will result in withholding from progress payments an amount equal to the value of the subject as-built drawings. The Contracting Officer will indicate an unearned balance on monthly payment estimates in accordance with the above, until the Contractor has fulfilled the contract requirements.

2.3 Final As-Built Drawings: The contract drawings were produced using Computer-Aided Drafting (CAD). The CAD software to be used by the Contractor for preparing the as-built drawings shall be AutoCAD, Release 10 by Autodesk Inc. The Contractor will be furnished 5-1/4 inch floppy diskettes containing the AutoCAD drawing files to be revised with the as-built drawings.

2.3.1 The Government will scan the diskettes for virus infections, and examine the drawing files for integrity before delivery to the Contractor. Upon receipt of the drawing files, the Contractor shall verify that the drawing files can be brought up using AutoCAD, and shall certify this to the Contracting Officer. Any drawing files that appear to be corrupt or otherwise unusable shall be identified immediately and returned to the Contracting Officer for replacement.

2.3.2 The Contractor shall revise the CAD drawings to reflect the as-built changes to match the approved marked set of blue-line prints. Some of the drawing changes, amendments prior to bid opening, and changes resulting from contract modification may have been added to the original mylars by hand drafting. The Contractor shall revise the CAD drawing to reflect the amendment/contract changes, in addition to all other as-built changes.

2.3.3 The Contractor shall certify that the media (floppy diskettes) containing the as-built drawing files have been scanned for known computer viruses before delivery to the Government. The name(s) and release date(s) of the virus scanning software used to analyze the delivered floppies shall be furnished to the Contracting Officer at the time of delivery. The release or revision date of the virus scanning software used shall be no older than ninety (90) days in age at the time of delivery of the media. If analysis of the delivered media by the Government finds evidence of virus infection, the media will be returned to the Contractor. The Contractor shall re-submit virus-free media at no cost to the Government.

2.3.4 Plotting: Each changed diskette shall be plotted on mylar and the diskette and the plot shall be returned to the Contracting Officer.

2.3.5 Drafting: Only personnel proficient in the preparation of engineering drawings shall be employed to modify the original contract drawings or prepare additional new drawings. All additions and corrections to the contract drawings shall match the adjacent existing linework and/or lettering being annotated in type, density, size, and style. All modifications and new drawings shall, in addition to the above, conform to applicable requirements of the Architect-Engineer Instruction Manual (AEIM), Chapter I - Drafting, and available from the Area or Resident Engineer's Office. The Contracting Officer will review all as-built drawings for accuracy and conformance to the above specified drafting standards. The Contractor will make all corrections, changes, additions, and deletions to meet these standards.

2.3.5.1 When final revisions have been completed, each drawing shall be lettered with the words "DRAWING OF WORK AS BUILT" in letters at least 3/16" high placed below the title block between the border and the trim line. The date of completion and the words "REVISED AS-BUILT" shall be placed in the revision block above the latest existing revision notation.

2.3.5.2 Title Blocks: The title block to be used for any new as-built drawings shall be similar to that used on the original drawings.

2.4 Submittal Requirements: After receipt of the approved as-built preliminary drawings, the Contractor shall submit to the Contracting Officer the following:

- a. The 5-1/4 inch revised diskette.
- b. One set of reproducible mylars produced from the revised diskette.
- c. The approved marked set of blue-line prints.

All of the above shall become the property of the Government upon final approval and shall be complete in all details.

#### 2.5 Final As-Built Drawings, Bid Item.

a. A special bid item entitled "Final As-Built Drawings" has been placed in the Bid Schedule for work on "As-Built Drawings". The amount of this item has been established by the Contracting Officer and entered in the Bid Schedule. This bid item becomes a part of the overall Contractor's bid, but payment of the amount shown in the bid schedule shall be withheld until the "Final As-Built Drawings" have been approved and accepted by the Contracting Officer.

b. The Contractor shall commence work on final as-built drawings upon his receipt of the approved preliminary as-built drawings. The Contractor shall have the number of calendar days specified in the Special Clause, COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK, to complete and return to the Contracting Officer all specified final as-built drawing work. In the event that the Contractor fails to complete as-built drawing work within the specified time, the Contracting Officer shall withhold payment due the Contractor for final as-built drawings under this contract.

2.6 Payment for Final As-Built Drawings: Payment for the performance of the work outlined above will be made after its approval and acceptance by the Contracting Officer. This work is a subsidiary portion of the contract work; therefore an amount as specified in the Bid Schedule will be withheld from the Contractor's bid price until acceptable performance of the work.

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SECTION 01740

WARRANTY OF CONSTRUCTION

1. WARRANTY OF CONSTRUCTION (FAR 52.246-21) (APR 1984).

1.2 In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph 1.11 of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

1.3 This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

1.4 The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of-

1.4.1 The Contractor's failure to conform to contract requirements; or

1.4.2 Any defect of equipment, material, workmanship, or design furnished.

1.5 The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

1.6 The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

1.7 If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

1.8 With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall-

1.8.1 Obtain all warranties that would be given in normal commercial practice;

1.8.2 Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

1.8.3 Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

1.9 In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

1.10 Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

1.11 This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

1.12 Defects in design or manufacture of equipment specified by the Government on a "brand name and model" basis, shall not be included in this warranty. In this event, the Contractor shall require any subcontractors, manufacturers, or suppliers thereof to execute their warranties, in writing, directly to the Government.

2. PRE-WARRANTY CONFERENCE. Prior to contract completion and at a time designated by the Contracting Officer or his representative, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements specified herein. The Contracting Officer shall establish communication procedures for oral notification to the Contractor of warranty defects; establish reasonable time for Contractor responses; and other details deemed necessary by the Contracting Officer for the execution of the construction warranty. In connection with these requirements the Contractor will furnish the name, telephone number and address of representatives authorized to perform warranty repairs. If the Contractor is located outside the local service area, the name, telephone number and address of a licensed and bonded company which is authorized to initiate and maintain warranty work action on behalf of the Contractor shall be furnished. This point of contact will be located within the local service area of the warranty work and shall be an established company capable of performing the type of work under the warranty item. At this conference, the Contracting Officer shall furnish names and telephone numbers of the personnel authorized to notify the Contractor or his designated representative of any failure, defect or damage, and to request warranty repair work.

3. WARRANTY REPAIRS. Warranty repair work which threatens the health, safety, or well-being of personnel or the safety of property and/or equipment will be handled by the Contractor on an immediate basis as orally directed by the Contracting Officer or authorized representative, as established in subparagraph, Pre-Warranty Conference, above. Such items requiring immediate attention shall include but not be limited to: air conditioning, heating, and ventilating systems; sewage disposal facilities or components thereto; fire protection systems; water supply system or components thereto; and electrical power systems. Other warranty repair which does not threaten the health, safety, or well-being of personnel and/or safety of property or equipment will be handled by the Contractor within seventy two hours or the time frame established during the pre-warranty conference. Failure of the Contractor to respond as requested will be

cause for the Contracting Officer to have the warranty repair work performed by others and proceed against the Contractor as outlined in subparagraphs, Bid Item and Performance Bond, above. Any work required to correct a warranty item, accomplished by the Government under these paragraphs shall not void the warranty of the item. (SWD letter, dated 18 July 1988).

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## SECTION 02050 - DEMOLITION

### PART 1 - GENERAL

#### 1.1 SUMMARY (Not Applicable)

#### 1.2 REFERENCES (Not Applicable)

#### 1.3 GENERAL REQUIREMENTS

The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from Government property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Contracting Officer. In the interest of conservation salvage shall be pursued to the maximum extent possible; salvaged items and materials shall be disposed of as specified.

#### 1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01300 SUBMITTALS:

SD-18, Records

Work Plan; "FIO".

The procedures proposed for the accomplishment of the work. The procedures shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.

#### 1.5 DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution.

#### 1.6 PROTECTION

##### 1.6.1 Protection of Existing Property

Before beginning any demolition work, the Contractor shall carefully survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to avoid

damage to existing items to remain in place, to be reused (see Plate #2, Note #1), or to remain the property of the Government, and any damaged items shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports, as required. The Contractor shall ensure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

#### 1.6.2 Environmental Protection

The work shall comply with the requirements of SECTION 1100.

#### 1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

#### 1.8 USE OF EXPLOSIVES

Use of explosives will not be permitted.

### PART 2 - PRODUCTS (Not Applicable)

### PART 3 - EXECUTION

#### 3.1 FILLING

Holes and other hazardous openings shall be filled in accordance with SECTION: 02210 GRADING.

#### 3.2 DISPOSITION OF MATERIAL

Title to all materials and equipment to be demolished, excepting Government salvage, is vested in the Contractor upon receipt of notice to proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

##### 3.2.1 Salvageable Items and Materials

Contractor shall salvage items and materials to the maximum extent possible.

##### 3.2.1.1 Material Salvaged for the Contractor

Material salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from Government property before completion of the contract. Material salvaged for the Contractor shall not be sold on the site.

### 3.2.2 Unsalvageable Materials

Concrete, masonry, and other noncombustible materials, except concrete permitted to remain in place, shall be disposed of outside the limits of government controlled land. All combustible and noncombustible materials shall be disposed of outside the limits of government controlled land at the contractors responsibility.

### 3.3 CLEAN-UP

Debris and rubbish shall be removed and transported in a manner as to prevent spillage on streets or adjacent areas. Local regulations regarding hauling and disposal apply.

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## SECTION 02110 - CLEARING AND GRUBBING

### PART 1 - GENERAL

#### 1.1 SUMMARY (Not Applicable)

#### 1.2 REFERENCES (Not Applicable)

#### 1.3 DEFINITIONS

##### 1.3.1 Clearing

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush, and rubbish occurring in the area to be capped.

##### 1.3.2 Grubbing

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the area indicated to be capped.

#### 1.4 SUBMITTALS

The following shall be submitted in accordance with SECTION: 01300 - SUBMITTALS:

SD-91, Records

Permission to dispose of cleared and grubbed materials on private property shall be in writing, and a copy of this permit shall be filed with the Contracting Officer.

### PART 2 - PRODUCTS (Not Applicable)

### PART 3 - EXECUTION

#### 3.1 CLEARING

Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be trimmed of all branches the heights indicated or directed. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. Trees and vegetation to be left standing shall be protected from

damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work.

### 3.2 GRUBBING

Material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 18 inches below the original surface. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground.

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## SECTION 02210 - GRADING

### PART 1 - GENERAL

#### 1.1 SUMMARY (Not Applicable)

#### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

##### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 75	(1987) Sampling Aggregates.
ASTM C 136	(1984; Rev. a) Sieve Analysis of Fine and Coarse Aggregates.
ASTM D 422-63	Particle size Analysis of Soils
ASTM D 1556	(1982) Density of Soil In-Place by the Sand-Cone Method.
ASTM D 1557	(1978) Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.54-kg) Rammer and 18-in. (457-mm) Drop.
ASTM D 2216	(1987) Determination of Water (moisture) Content of Soil, Rock, & Soil-Aggregate Mixtures.
ASTM D 2487	(1985) Classification of Soils for Engineering Purposes.
ASTM D 4253-83	Maximum Index Density of Soils Using a Vibratory Table.
ASTM D 4318-87	Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
ASTM D 4643	(1980) Laboratory determination of Water (Moisture) Content of Soil by the Microwave Oven Method.

#### 1.3 DEFINITIONS

##### 1.3.1 Satisfactory Bedding Materials

Materials classified in ASTM D 2487 as GW, GP, GM, GC, SW, SP, SC, SM, and CL and free from roots and other organic matter, trash, debris, and frozen materials and stones larger than 3 inches in any dimension are satisfactory.

### 1.3.2 Unsatisfactory bedding Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Materials classified in ASTM D 2487 as CH, Pt, OH, OL, ML, and MH are unsatisfactory. Unsatisfactory materials also include refuse.

### 1.3.3 Satisfactory Cover Materials

Materials classified in ASTM D 2487 as SC and CL and free from roots and other organic matter, trash, debris, and frozen materials and stones larger than 1 inch in any dimension are satisfactory. Satisfactory Cover Materials shall have the following properties:

1. Fines content  $\geq 30\%$  passing the #200 sieve
2. Plasticity  $PI \geq 15\%$
3. Course Aggregates retained on the #4 sieve  $< 10\%$
4. No particles  $\geq 1$ -inch

### 1.3.4 Unsatisfactory Cover Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Materials classified in ASTM D 2487 as GW, GP, GM, GC, SW, SP, SM, MH, ML, CH, Pt, OH, and OL, are unsatisfactory. Materials classified in ASTM D 2487 as CH Pt, OH, OL, ML, and MH are unsatisfactory. Unsatisfactory materials also include refuse.

### 1.3.5 Cohesionless and Cohesive Materials

Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Materials classified as GM and SM will be identified as cohesionless only when the fines have a plasticity index of zero.

### 1.3.6 Degree of Compaction

Degree of compaction is a percentage of the maximum laboratory dry density obtained by the test procedure presented in ASTM D 1557, Method D or ASTM D 4253. ASTM D 1557 shall be used for soils containing 15 percent or more fines. ASTM D 4253 shall be used for soils containing 5 percent or less fines. The maximum laboratory dry density of soils containing between 5 and 15 percent fines shall be determined by the above procedure achieving the highest dry density. Degree of compaction shall be expressed as a percentage of the maximum laboratory dry density obtained by the appropriate procedure as defined above. Percentage of maximum laboratory dry density has been abbreviated hereinafter as percent laboratory maximum density or percent maximum density.

### 1.3.7 Topsoil

Material obtained from off-site areas suitable for topsoil, is defined as natural, friable surface soil possessing the characteristics of representative soils in the vicinity that produce heavy growth of crops, grass, or other vegetation.

### 1.4 SUBMITTALS

The following shall be submitted in accordance with SECTION: 01300 - SUBMITTALS:

#### SD-39, Qualifications

The Contractor shall furnish the qualifications of the commercial testing laboratory who will be performing all testing in accordance with the paragraph, FIELD TESTING CONTROL.

#### SD-70, Test Reports

The Contractor shall furnish certified test reports and analysis certifying that the satisfactory materials proposed for use at the project site conform to the specified requirements, and for all tests conducted in accordance with the paragraph, FIELD TESTING CONTROL.

#### SD-91, Records

The Contractor shall notify the Contracting Officer of the opening of excavation or borrow areas in accordance with paragraph, BORROW MATERIAL.

### 1.5 PLANT, EQUIPMENT, MACHINES, AND TOOLS

#### 1.5.1 General Requirements

Plant, equipment, machines, and tools used in the work shall be subject to approval and shall be maintained in satisfactory working condition at all times. Other compacting equipment may be used in lieu of that specified, where it can be demonstrated that the results are equivalent. The equipment shall be adequate and have the capability of producing the results specified.

#### 1.5.2 Steel-Wheeled Rollers

Steel-wheeled rollers shall be the self-propelled type weighing not less than 10 tons, with a minimum weight of 300 pounds per inch width of rear wheel. Wheels of the rollers shall be equipped with adjustable scrapers. The use of vibratory rollers is optional.

#### 1.5.3 Tamping Rollers

Tamping rollers shall consist of two or more roller drums mounted side by side in a suitable frame. Rollers operated in tandem sets shall be towed in a manner such that the prints of the tamping feet produced by the tandem units

do not overlap. Each drum of a roller shall have an outside diameter of not less than 5 feet and shall not be less than 5 feet nor more than 6 feet in length. The space between two adjacent drums, when on a level surface, shall be not less than 12 inches nor more than 15 inches. Each drum shall be free to pivot about an axis parallel to the direction of travel. Each drum ballasted with fluid shall be equipped with at least one pressure-relief valve and with at least one safety head. The safety head shall be equal to Union Type Safety Heads manufactured by Black, Sivalls and Bryson, Inc., Kansas City, Missouri, with rupture discs suitable for between 50 and 75 pounds-per-square-inch rupturing pressure. The pressure-relief valve is a manually operated valve and shall be opened periodically. Personnel responsible for opening pressure-relief valves shall be instructed to ascertain that valve openings are free from plugging to assure that any pressure developed in roller drums is released at each inspection. At least one tamping foot shall be provided for each 100 square inches of drum surface. The space measured on the surface of the drum, between the centers of any two adjacent tamping feet, shall be not less than 9 inches. The length of each tamping foot from the outside surface of the drum shall be not more than 11 inches and shall be maintained at not less than 9 inches. The cross-section area of each tamping foot shall be not more than 10 square inches at a plane normal to the axis of the shank 6 inches from the drum surface, and shall be maintained at not less than 7 square inches nor more than 10 square inches at a plane normal to the axis of the shank 8 inches from the drum surface. During the operation of rolling, the spaces between the tamping feet shall be maintained clear of materials which would impair the effectiveness of the tamping rollers. The weight of a roller when fully loaded shall be not less than 4,000 pounds per foot of length of drum. The weight of a roller empty shall be not less than 2,500 pounds per foot of length of drum. The loading used in the roller drums and operation of the rollers shall be as required to obtain the desired compaction. If more than one roller is used on any one layer of fill, all rollers so used shall be of the same type and essentially of the same dimensions. Rollers shall be drawn by crawler-type or rubber-tired tractors at a speed not to exceed 5.0 miles per hour. The use of rubber-tired tractors shall be discontinued if the tires leave ruts that prevent uniform compaction by the tamping roller. Tractors used for pulling rollers shall have sufficient power to pull the roller satisfactorily when drums are fully loaded with sand and water. At the option of the Contractor, self-propelled tamping rollers conforming with the above requirements may be used in lieu of tractor-drawn tamping rollers. Self-propelled rollers exceeding the empty weight requirements may be used, provided that when the Contracting Officer determines self-propelled roller performance is unsatisfactory, the nominal foot pressure of the tamping feet of the self-propelled roller can be adjusted to approximate the nominal foot pressure of the specified towed rollers for the particular working condition required by the substitution of tamping feet having a face area not exceeding 14 square inches. If the self-propelled rollers cause shearing of the fill or laminations in the fill, the Contracting Officer may direct that the rollers be removed from the fill and that tractor-drawn tamping rollers conforming with these specifications be used. For self-propelled rollers, in which steering is accomplished through the use of rubber-tired wheels, the tire pressure shall not exceed 40 pounds per square inch. Self-propelled rollers shall be operated at a speed not to exceed 5.0 miles per hour. The design and operation of the tamping roller

shall be subject to the approval of the Contracting Officer who shall have the right at any time during the prosecution of the work to direct such repairs to the tamping feet, minor alterations in the roller, and variations in the weight as may be found necessary to secure optimum compaction of the earth-fill materials.

#### 1.5.4 Rubber-Tired Rollers

Rubber-tired rollers shall have a minimum of four wheels equipped with pneumatic tires. The tires shall be of such size and ply as can be maintained at tire pressures between 80 and 100 pounds per square inch for a 25,000 pound wheel load during rolling operations. The roller wheels shall be located abreast and be so designed that each wheel will carry approximately equal load in traversing uneven ground. The spacing of the wheels shall be such that the distance between the nearest edges of adjacent tires will not be greater than 50 percent of the tire width of a single tire at the operating pressure for a 25,000 pound wheel load. The roller shall be provided with a body suitable for ballast loading such that the load per wheel may be varied, as directed by the Contracting Officer, from 18,000 to 25,000 pounds. The roller shall be towed at speeds not to exceed five miles per hour. The character and efficiency of this equipment shall be subject to the approval of the Contracting Officer. If the rubber-tired rollers cause shearing of the fill or laminations in the fill, the Contracting Officer may direct that the rollers be removed from the fill and that tractor-drawn tamping rollers conforming with the provisions of subparagraph, Tamping Rollers, be used.

#### 1.5.5 Power Tampers and Vibrating Platforms

Compaction of materials, in areas where it is impracticable to use a roller, shall be performed by the use of approved power tampers or vibrating platforms.

#### 1.5.6 Sprinkling Equipment

Sprinkling equipment shall consist of tank trucks, pressure distributors, or other approved equipment designed to apply controlled quantities of water uniformly over variable widths of surface.

#### 1.5.7 Straightedge

The Contractor shall furnish and maintain at the site, in good condition, one 12-foot straightedge, for use in the testing of the finished surface. Straightedge shall be made available for Government use. Straightedges shall be constructed of aluminum or other lightweight metal and shall have blades of box or box-girder cross section with flat bottom reinforced to insure rigidity and accuracy. Straightedges shall have handles to facilitate movement.

### 1.6 STOCKPILING MATERIALS

Materials shall be stockpiled in the manner and at locations designated.

## PART 2 - PRODUCTS

### 2.1 BORROW MATERIAL

Borrow material shall be selected to meet requirements and conditions of the particular fill for which it is to be used.

#### 2.1.1 Selection

Borrow materials shall be obtained from sources outside the limits of Government-controlled land. Borrow materials shall be subject to approval. The source of borrow material shall be the Contractor's responsibility. Unless otherwise provided in the contract, the Contractor shall obtain from the owners the right to procure material, shall pay all royalties and other charges involved, and shall bear all the expense of developing the sources, including rights-of-way for hauling.

## PART 3 - EXECUTION

### 3.1 PREPARATION OF GROUND SURFACE FOR FILL

All vegetation, such as trees, stumps, roots, brush, and other vegetation in the area to be cleared shall be cut off flush with the original ground surface. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work. In no case will unsatisfactory material remain in or under the fill area. Sloped ground surfaces steeper than one vertical to four horizontal on which fill is to be placed shall be plowed, stepped, or broken up, as directed, in such manner that the fill material will bond with the existing surface. Prepared surfaces on which compacted fill is to be placed shall be wetted or dried as may be required to obtain the specified moisture content and density.

### 3.2 FILLS AND EMBANKMENTS (OTHER THAN SAND GAS VENT LAYER)

Fills and embankments shall be constructed at the locations and to lines and grades indicated. The completed fill shall conform to the shape of the typical sections indicated or shall meet the requirements of the particular case. Satisfactory material obtained during excavation may be used in forming required fill. Fill shall be satisfactory material and shall be reasonably free from roots, other organic material, and trash and from stones having a maximum diameters as specified in paragraphs "Satisfactory Bedding Materials" and "Satisfactory Cover Materials". No frozen material will be permitted in the fill. The material shall be placed in successive maximum horizontal layers of 8 inches in loose depth for the full width of the cross section and shall be compacted as specified. Each layer shall be compacted before the overlaying lift is placed. Moisture content of the fill or backfill material shall be adjusted by wetting or aerating, as required, to at least one (1) percent above optimum moisture content as determined from laboratory tests specified in paragraph "DEFINITIONS". Moisture content adjustments shall be

assisted by using a disk that will penetrate the full loose layer thickness and will scarify the upper two inches of the underlying lift. Disking shall continue until the specified moisture is obtained throughout the layer to be compacted.

### 3.2.1 Spreading

After dumping, the materials shall be spread by bulldozer or other approved means in approximately horizontal layers over the fill area. At no time will any equipment operate on top of the high density polyethylene liner with out a protective layer of soil as per manufactures recommendation. Unless otherwise directed, the loose thickness of these layers before compaction shall be as specified hereinafter in part 3. The entire surface of any section of the bedding material or cover material layers under construction shall be maintained in such condition that construction equipment can travel to any part of one section. Ruts in the surface of any layer shall be filled satisfactorily before compacting.

### 3.2.2 Compaction

Each layer of the landfill cap shall be compacted to the percent maximum density. Density of compacted mixture shall be at least 90 percent of laboratory dry maximum density in accordance with ASTM D 1557, Method D for cohesive materials or 95 percent of laboratory maximum dry density in accordance with ASTM D 4253 for cohesionless materials. The first lift of cover material on top of the high density polyethylene liner shall be compacted with the steel-wheeled roller and/or rubber-tired roller as per manufactures recommendation. Rolling shall begin at the outside edge of the surface and proceed to the center, overlapping on successive trips at least one-half the width of the roller. Alternate trips of the roller shall be slightly different lengths. Speed of the roller shall be such that displacement of the aggregate does not occur. Areas inaccessible to the rollers shall be compacted with power tampers or vibrating platforms, and shall be shaped and finished by hand methods.

### 3.2.3 Layer Thickness

Compacted thickness of the bedding material shall be as indicated. No layer shall be in excess of 8 inches in loose thickness nor less than 3 inches in compacted thickness.

## 3.3 FINISHED EXCAVATION, FILLS, AND EMBANKMENTS

All areas covered by the project, including excavated and filled sections and adjacent transition areas, shall be uniformly smooth-graded. The finished surface shall be smooth, compacted, and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from finish roller operations, except as otherwise specified. The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turfing materials. Surfaces shall be finished not more than 0.15 foot above or below the established grade or approved cross section.

### 3.4 PLACING TOPSOIL

On areas to receive topsoil, the compacted soil shall be scarified to a 2-inch depth for bonding of topsoil with subsoil. Topsoil then shall be spread evenly to a loose thickness of 8 inches and graded to the elevations and slopes shown. Topsoil shall not be spread when frozen or excessively wet or dry. Compaction shall be achieved by one complete coverage of a dozer track. Moisture content shall be adjusted as required to facilitate compaction. Material required for topsoil in excess of that produced by excavation within the grading limits shall be obtained from off-site areas.

### 3.5 FIELD TESTING CONTROL

Testing shall be the responsibility of the Contractor and shall be performed by an Government approved commercial testing laboratory or by the Contractor subject to Government approval. Field in-place density shall be determined in accordance with ASTM D 1556. When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, the material shall be removed, replaced and recompact to meet specification requirements, at no additional expense to the Government. Tests on recompacted areas shall be performed to determine conformance with specification requirements. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.

#### 3.5.1 Test Results

A coordinate system (x,y,z) shall be established to report sample locations. All tests including failures shall be reported and submitted to the Contracting Officer within 24 hours of the time of sampling. Only passing tests are acceptable. In the event of a failing moisture or density test a minimum of two passing tests of the suspect area of the fill shall be run. Results shall verify that materials comply with this specification. When a material source is changed, the new material will be tested for compliance. When deficiencies are found, the initial analysis shall be repeated and the material already placed shall be retested to determine the extent of unacceptable material. All in-place unacceptable material shall be replaced or modified as directed by the Contracting Officer.

#### 3.5.2 Sampling

Aggregate samples for laboratory tests shall be taken in accordance with ASTM D 75.

### 3.5.3 Sieve Analysis

Before starting work, at least one sample of material to be placed shall be tested in accordance with ASTM C 136 and ASTM D 422 on sieves conforming to ASTM E 11. After the initial test, a minimum of one analysis shall be performed for each 1000 CY of material placed, with a minimum of three analyses for each day's run until the layer is completed.

### 3.5.4 Liquid Limit and Plasticity Index

One liquid limit and plasticity index shall be performed for each sieve analysis. Liquid limit and plasticity index shall be in accordance with ASTM D 4318.

### 3.5.5 Classification of Soils for Engineering Purposes

Soils classification shall be performed for each sieve analysis. Soils classification shall be in accordance with ASTM D 2487.

### 3.5.6 Density Control

The Contractor shall adequately control his compaction operations by tests made in accordance with ASTM D 1556. One in-place density and one in-place moisture test shall be performed per 10,000 square feet, or fraction thereof, of each lift. One in-place density and one in-place moisture test shall be performed per 100 cubic feet, or fraction thereof, for hand compacted areas. Moisture content shall be in accordance with ASTM D 2216 or ASTM D 4643 for determining density. When ASTM D 4643 is utilized, the moisture content should be checked a minimum of once per each ten (10) microwave oven method using ASTM D 2216. The density test hole shall be backfilled and compacted to the required moisture and density of the adjacent fill. Additional tests shall be made as necessary. All test results shall be made available to the Contracting Officer. Acceptance tests may be made by the Government for verification of compliance; however, the Contractor shall not depend on such test for his control of operations. Deficiencies in construction shall be corrected by the contractor at no additional cost to the Government.

### 3.5.7 Density-Moisture Determinations

Test for determination of maximum laboratory dry density and optimum moisture content shall be performed by the contractor in accordance with the requirements of ASTM D 1557, Method D or ASTM D 4253. ASTM D 1557 shall be used for soils containing 15 percent or more fines. ASTM D 4253 shall be used for soils containing 5 percent or less fines. The maximum laboratory dry density of soils containing between 5 and 15 percent fines shall be determined by the above procedure achieving the highest dry density. A minimum of one laboratory density test, gradation, and Atterberg limits shall be performed each placement day or fraction thereof. Additional tests shall be run for each material change.

### 3.6 PROTECTION

Newly graded areas shall be protected from traffic and from erosion, and any settlement or washing away that may occur from any cause, prior to acceptance, shall be repaired and grades reestablished to the required elevations and slopes. All work shall be conducted in accordance with the environmental protection requirements of the contract.

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## SECTION 02215 - PLASTIC FILTER FABRIC

### 1. GENERAL

#### 1.1 SCOPE

The work provided for herein consists of furnishing all plant, labor, material, and equipment and performing all operations required for furnishing, hauling, and placing the geotextile, complete, as specified herein and shown on the contract drawings, and maintaining the geotextile until placement of the geocomposite liner is completed and accepted.

#### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

American Society for Testing and Materials (ASTM).

ASTM-D 123 REV A-90	Standard Terminology Relating to Textiles.
ASTM-D 1683-90	Failure in Sewn Seams of Woven Fabrics.
ASTM-D 3787-89	Bursting Strength of Knitted Goods: Constant-Rate-of-Traverse (CRT), Ball Burst Test.
ASTM-D 4491-89	Test Methods for Water Permeability of Geotextiles by Permittivity.
ASTM-D 4533-85	Trapezoid Tearing Strength of Geotextiles.
ASTM-D 4632-86	Breaking Load and Elongation of Geotextiles (Grab Method).

U.S. Army Corps of Engineers.

EM 1110-2-1906	Laboratory Soils Testing.
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### 2. MATERIALS.

#### 2.1 Geotextile (Plastic Filter Fabric)

The geotextile shall be a non-woven pervious sheet of plastic yarn as defined by ASTM D-123. The geotextile shall meet the physical requirements listed in Table No. 1 of the specifications. The geotextile fiber shall consist of a long chain synthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, amide, or vinylidene-chloride, and shall contain stabilizers and/or inhibitors added to the base plastic if necessary to make the filaments resistant to deterioration due to ultra-violet and heat

exposure. The edges of the geotextile shall be finished to prevent the outer fiber from pulling away from the geotextile.

## 2.2 Seams

The seams of the geotextile shall be sewn with thread of a material meeting the chemical requirements given above for geotextile yarn or shall be bonded by cementing or by heat. The sheets of geotextile shall be attached at the factory or another approved location, if necessary, to form sections not less than 6 feet wide. Seams shall be tested in accordance with method ASTM D 1683, using 1-inch square jaws and 12 inches per minute constant rate of traverse. The strengths shall be not less than 90% of the required tensile strength (Table 1) of the unaged geotextile in any principal direction.

## 2.3 Acceptance Requirements

All brands of geotextile and all seams to be used shall be accepted on the following basis. The Contractor shall furnish the Contracting Officer, in duplicate, a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the geotextile. The mill certificate or affidavit shall attest that the geotextile meets the chemical, physical and manufacturing requirements stated in this specification. If requested by the Contracting Officer, the Contractor shall provide to the Government geotextile samples for testing to determine compliance with any or all of the requirements in this specification. When samples are to be provided, they shall be submitted a minimum of 30 days prior to the beginning of installation of the same geotextile. All samples provided shall be from the same production lot as will be supplied for the contract, and shall be the full manufactured width of the geotextile by at least 10 ft. long, except that samples for seam strength may be a full width sample folded over and the edges stitched for a length of at least 5 ft. Samples submitted for testing shall be identified by manufacturers lot designation.

## 2.4 Securing Pins

Securing pins shall be 3/16 inch in diameter, of steel, pointed at one end and fabricated with a head to retain a steel washer having an outside diameter of no less than 1.5 inches. The lengths of the pins shall be no less than 18 inches.

Table No. 1 - Physical Requirements

Physical Property	Test Procedure	Acceptable Values++
Tensile Strength +(unaged geotextile)	ASTM D 4632 Grab Test using 1 inch square jaws and a 12 inches per minute constant rate of traverse.	100 pound minimum in any principal direction.
Breaking Elongation (unaged geotextile)	ASTM D 4632 Determine Apparent Breaking Elongation.	15 percent minimum in any principal direction.
Puncture Strength +(unaged geotextile)	ASTM D 3787 except polished steel ball replaced with a 5/16-inch diameter solid steel cylinder with a hemispherical tip centered within the ring clamp.	40 pound minimum.
Geotextile Permeability	ASTM D 4491 Test Methods for Water Permeability of Geotextiles by Permittivity.	The permeability of the geotextile shall be greater than 0.1 cm/sec.
Equivalent Opening Size (EOS)	Specification Paragraph titled "Determination of Equivalent Opening Size (EOS)".	No coarser than the U.S. Standard Sieve No. 70.
Tear Strength	ASTM D 4533 Trapezoidal Tear Strength.	40 lbs. minimum in any principal direction.

+Unaged geotextile is defined as geotextile in the condition received from the manufacturer or distributor.

++All numerical values represent minimum average roll values (i.e., any roll in a lot should meet or exceed the minimum in the table).

## 2.5 SHIPMENT AND STORAGE

During all periods of shipment and storage, the geotextile shall be protected from direct sunlight, ultra-violet rays, temperatures greater than 140 degrees fahrenheit, mud, dirt, dust and debris. To the extent possible, the fabric shall be maintained wrapped in a heavy duty protective covering.

### 3. INSTALLATION OF THE GEOTEXTILE

The geotextile shall be placed in the manner and at the locations shown on the drawings. At the time of installation, the geotextile shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage. The surface to receive the geotextile shall be prepared to a relatively smooth condition free of obstructions, depressions, debris and soft or low density pockets of material. The geotextile shall be laid smooth and free of tension, stress, folds, wrinkles, or creases. The strips shall be placed to provide a minimum width of 12 inches of overlap for each joint. Temporary pinning of the textile to help hold it in place until the geocomposite liner is installed shall be allowed. The geotextile shall be protected at all times during construction from contamination by surface runoff and any geotextile so contaminated shall be removed and replaced with uncontaminated geotextile. Any damage to the geotextile during its installation or during placement of the geocomposite liner shall be replaced by the Contractor at no cost to the Government. The work shall be scheduled so that the covering of the geotextile with a layer of the specified material is accomplished within 7 calendar days after placement of the geotextile. Failure to comply shall require replacement of geotextile. The geotextile shall be protected from damage prior to and during the placement of the geocomposite liner or other materials. Before placement of the geocomposite liner or other materials, the Contractor shall demonstrate that the placement technique will prevent damage to the geotextile. In no case shall any type of equipment be allowed on the unprotected geotextile.

### 4. QUALITY CONTROL.

#### 4.1 General

The Contractor shall establish and maintain quality control for the work covered in this section of the Technical Provisions to assure compliance with contract requirements and maintain quality control records for all construction operations including but not limited to the following:

- (1) Field inspection of materials.
- (2) Placing of fabric and securing pins.
- (3) Protection of fabric.

Two (2) legible copies of these records, as well as the records of corrective action taken, shall be furnished the Government as directed by the Contracting Officer.

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## SECTION 02224 - GAS VENT SYSTEM

### PART 1 - GENERAL

#### 1.1 SUMMARY

This section covers the source and placement of compacted sand filter and PVC pipe to construct a gas vent system for the landfill.

#### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

##### AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)

ASTM D 75	(1987) Sampling Aggregates.
ASTM C 136	(1984; Rev. a) Sieve Analysis of Fine and Coarse Aggregates.
ASTM D 422-63	Particle size Analysis of Soils
ASTM D 1556	(1982) Density of Soil in Place by the Sand-Cone Method.
ASTM D 2216	(1980) Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures
ASTM D 2487	(1985) Classification of Soils for Engineering Purposes.
ASTM D 3034	Standard Specification for Type PSM Poly Vinyl Chloride (PVC) Sewer Pipe and Fittings
ASTM D 4253-83	Maximum Index Density of Soils Using a Vibratory Table.
ASTM D 4318-87	Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
ASTM D 4643-87	Determination of Water (Moisture) Content of Soil by the Microwave Oven Method.
ASTM F 758	Standard Specification for Smooth-Wall Poly Vinyl Chloride (PVC) Plastic Underdrain Systems for Highway, Airport, and Similar Drainage

1.3 DEFINITIONS

1.3.1 Sand Filter Material

1.3.1.1 Satisfactory Materials

Materials shall be classified in accordance with ASTM D 2487 and free from roots and other organic matter, trash, debris and frozen materials. Sand material shall be compromise of tough, durable particles, shall be reasonably free from thin, flat and elongated pieces, and shall contain no organic materials. Limestone and/or Caliche screenings are not acceptable. The sand materials shall consist of well graded sand between the limits specified below:

<u>Sieve Designation</u>	<u>Percentage by Weight Passing Square-mesh Sieve</u>
3/8-inch	100
No. 4	95-100
No. 16	45-80
No. 50	10-30
No. 100.	2-10

1.3.2 Degree of Compaction

Degree of compaction is a percentage of the maximum density obtained by the test procedure presented in ASTM D 4253, abbreviated below as a percent of laboratory maximum density.

1.3.3 PVC Pipe Material

1.3.3.1 Satisfactory Materials

PVC pipe shall contain ultraviolet inhibitor to provide protection from exposure to direct sunlight. Polyvinyl Chloride (PVC) Pipe and Fittings shall conform to ASTM D 3034 (SDR 35), F 949, or F 758, Type PS 46.

1.4 SUBMITTALS

The following shall be submitted in accordance with SECTION: 01300 - SUBMITTALS:

SD-39 Qualifications

The Contractor shall furnish the qualifications of the commercial testing laboratory who will be performing testing in accordance with PART 3 paragraph, SAMPLING AND TESTING.

## SD-70 Test Reports

The Contractor shall furnish certified test reports and analysis certifying that the satisfactory materials proposed for the use at the project site conform to the specified requirements, and for all tests conducted in accordance with PART 3 paragraph, SAMPLING AND TESTING.

### 1.5 PLANT, EQUIPMENT, MACHINES, AND TOOLS

#### 1.5.1 General Requirements

Plant, equipment, machines, and tools used in the work shall be subject to approval and shall be maintained in satisfactory working condition at all times. Other compacting equipment may be used in lieu of that specified, where it can be demonstrated that the results are equivalent. The equipment shall be adequate and have the capability of producing the results specified.

#### 1.5.2 Vibratory Steel-Wheeled Rollers

Vibratory steel-wheeled rollers shall be the self-propelled type weighing not less than 10 tons, with a minimum weight of 300 pounds per inch width of rear wheel. Wheels of the rollers shall be equipped with adjustable scrapers.

#### 1.5.3 Sprinkling Equipment

Sprinkling equipment shall consist of tank trucks, pressure distributors, or other approved equipment designed to apply controlled quantities of water uniformly over variable widths of surface.

#### 1.5.7 Straightedge

The Contractor shall furnish and maintain at the site, in good condition, one 12-foot straightedge, for use in the testing of the finished surface. Straightedge shall be made available for Government use. Straightedges shall be constructed of aluminum or other lightweight metal and shall have blades of box or box-girder cross section with flat bottom reinforced to insure rigidity and accuracy. Straightedges shall have handles to facilitate movement.

### 1.6 STOCKPILING MATERIALS

Materials shall be stockpiled in the manner and at locations designated.

## PART 2 - PRODUCTS

### 2.1 SAND MATERIAL

Sand material shall be obtained from outside the limits of Government controlled lands and shall be selected to meet requirements and conditions of fill for the vent layer.

## 2.2 PVC VENT PIPES

Four, 4-inch diameter, perforated PVC pipes and fitting shall be used for the base of the venting system. Non-perforated PVC 4-inch diameter pipe shall be used for the vertical portion of the vent. Each vertical vent pipe shall be fitted with an inverted "U" or a "J" bent at the end, and the end opening shall be protected with a perforated cap. The contractor shall submit details of his method and procedure of providing a watertight joint of the vertical vent pipe with the geocomposite membrane for approval by the Contracting Officer before the venting system is installed.

## 2.3 PERFORATIONS IN PVC PIPE

### 2.3.1 Slotted Perforations in PVC Pipe

Circumferential slots shall be cleanly cut along the length of the horizontal pipe. Width of slots shall not exceed  $1/8$  inch nor be less than  $1/32$  inch. Length of the individual slots shall not exceed  $1-1/2 \pm 1/4$  for the 4-inch diameter pipe. Slots shall be approximately 3 inches center-to-center along the pipe. Rows of slots shall be symmetrically spaced so that they are fully contained in 2 quadrants of the pipe. Slots shall be centered in the valleys of the corrugations of profile wall pipe.

### 2.3.2 Circular Perforations in PVC Pipe

Circular holes shall be cleanly cut along the length of the horizontal pipe. Diameters of holes shall not exceed  $3/8$  inch nor be less than  $3/16$  inch and arranged in rows parallel to the longitudinal axis of the pipe. Perforations shall be approximately 3 inches center-to-center along the pipe. The rows shall be approximately  $1-1/2$  inches apart and arranged in a staggered pattern so that all perforations lie at the midpoint between perforations in adjacent rows.

## PART 3 - EXECUTION

### 3.1 GENERAL

### 3.2 PREPARATION OF GROUND SURFACE FOR FILL

All vegetation, trees and brush, rubbish, and other unsatisfactory material within the area upon which fill is to be placed, shall be removed before the fill is started. Sloped ground surfaces steeper than one vertical to four horizontal on which fill is to be placed shall be plowed, stepped, or broken up, as directed, in such manner that the fill material will bond with the existing surface. Prepared surfaces on which compacted fill is to be placed shall be wetted or dried as may be required to obtain the specified moisture content and density.

### 3.3 SAND VENT MATERIAL

The vent material fill shall be constructed at the locations and to lines and grades indicated. The completed fill shall conform to the shape of the typical sections indicated or shall meet the requirements of the particular case. Satisfactory material shall be used in forming required fill. Compacted fill shall be satisfactory material and shall be reasonably free of debris, roots, organic material, frozen materials and trash, and shall not contain clods, rock or fractured stones. The material shall be placed in successive horizontal layers of 8 inches in loose thickness for the full width of the cross section. Each layer shall be compacted before the overlaying lift is placed. Moisture content of the fill or backfill material shall be at a moisture content of optimum or greater.

#### 3.3.1 Spreading

After dumping , the materials shall be spread by bulldozer or other approved means in approximately horizontal layers over the fill area. Unless otherwise directed, the thickness of these layers before compaction shall be as specified hereinafter in part 3. The entire surface of any section of the gas vent layer under construction shall be maintained in such condition that construction equipment can travel to any part of one section. Ruts in the surface of any layer shall be filled satisfactorily before compacting.

#### 3.3.2 Compaction

Each layer of sand material shall be compacted. Water content shall be as required to achieve the specified percent of compaction . Density of compacted mixture shall be at least 95 percent of laboratory maximum density in accordance with ASTM D 4253 . Rolling shall begin at the outside edge of the surface and proceed to the center, overlapping on successive trips at least one-half the width of the roller. Alternate trips of the roller shall be slightly different lengths. Speed of the vibratory steel wheel roller shall be such that displacement of the aggregate does not occur. Areas inaccessible to the rollers shall be compacted with mechanical vibratory plates, and shall be shaped and finished by hand methods.

#### 3.3.3 Layer Thickness

Compacted thickness of the gas vent sand material shall be as indicated. No layer shall be in excess of 8 inches in loose thickness nor less than 3 inches in compacted thickness.

#### 3.3.4 Finishing

The surface of the top layer shall be finished to grade and cross section shown. Finished surface shall be smooth and of uniform texture. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections. Should the surface for any reason become rough, corrugated, uneven in texture, or traffic marked prior to completion, such unsatisfactory portion shall be scarified, reworked, recompacted, or replaced as directed.

### 3.3.5 Smoothness

Surface of the layer shall show no deviations in excess of 3/8-inch when tested with the 12-foot straightedge. Deviations exceeding this amount shall be corrected by removing material and replacing with new material, or by reworking existing material and compacting, as directed.

### 3.3.6 Thickness Control

Compacted thickness of the layer shall be within 1/2-inch of the thickness indicated. Where the measured thickness is more than 1/2-inch deficient, such areas shall be corrected by scarifying, adding new material of proper gradation, reblading, and recompacting as directed. Where the measured thickness is more than 1/2-inch thicker than indicated, the course shall be considered as conforming to the specified thickness requirements. Average job thickness shall be the average of all thickness measurements taken for the job, but shall be within 1/4-inch of the thickness indicated.

## 3.4 PVC VENTS

### 3.4.1 Installation of Filter Fabric or Filter Sock

One layer of filter fabric or a filter sock shall be wrapped or placed around the perforated or slotted collector pipes in such a manner that longitudinal overlaps of fabric are in unperforated or unslotted quadrants of the pipes. The overlap shall be at least 2 inches. The fabric or sock shall be secured to the pipe in such a manner that the backfill materials will not infiltrate through any fabric overlaps.

### 3.4.2 Jointing

PVC joints shall be in accordance with the requirements of ASTM D 3034, D 3212, of F 949.

### 3.4.3 Installation of PVC Vents

Each vent shall be carefully inspected before it is to be installed. Any defects in the pipe shall cause the pipe to be rejected. No vents shall be laid when the weather is unsuitable for such work. The pipe shall be laid to the grades and alignment as indicated. All vents in place shall be inspected prior to backfilling.

## 3.5 SAMPLING AND TESTING

Sampling and testing shall be performed by an government approved commercial testing laboratory or may be tested by the Contractor subject to approval. No work requiring testing shall be permitted until the facilities have been inspected and approved. If the Contractor elects to establish testing facilities, no work requiring testing will be permitted until the Contractor's facilities have been inspected and approved by the Contracting Officer. The

first inspection shall be at the expense of the Government. Cost incurred for any subsequent inspections required because of failure of the first inspection will be charged to the Contractor. Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government. Field in-place density shall be determined in accordance with ASTM D 1556 . When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, the material shall be removed, replaced and recompact to meet specification requirements, at no additional expense to the Government. Tests on recompact areas shall be performed to determine conformance with specification requirements. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.

#### 3.5.1 Test Results

A coordinate system (x,y,z) shall be established to report sample locations. All tests including failures shall be reported and submitted to the Contracting Officer within 24 hours of the time of sampling. Only passing tests are acceptable. In the event of a failing moisture or density test a minimum of two passing tests of the suspect area of the fill shall be run. Results shall verify that materials comply with this specification. When a material source is changed, the new material will be tested for compliance. When deficiencies are found, the initial analysis shall be repeated and the material already placed shall be retested to determine the extent of unacceptable material. All in-place unacceptable material shall be replaced or modified as directed by the Contracting Officer.

#### 3.5.2 Sampling

Aggregate samples for laboratory tests shall be taken in accordance with ASTM D 75.

#### 3.5.3 Sieve Analysis

Before starting work, at least one sample of material to be placed shall be tested in accordance with ASTM C 136 and ASTM D 422 on sieves conforming to ASTM E 11. After the initial test, a minimum of one analysis shall be performed for each 1000 CY of material placed, with a minimum of three analyses for each day's run until the layer is completed.

#### 3.5.4 Classification of Soils for Engineering Purposes

Soils classification shall be performed for each sieve analysis. Soils classification shall be in accordance with ASTM D 2487.

### 3.5.5 Density Control

The Contractor shall adequately control his compaction operations by tests made in accordance with ASTM D 1556 . One in-place density and one in-place moisture test shall be performed per 10,000 square feet, or fraction thereof, of each lift. One in-place density and one in-place moisture test shall be performed per 100 cubic feet, or fraction thereof, for hand compacted areas. Moisture content shall be in accordance with ASTM D 2216 or ASTM D 4643 for determining density. The density test hole shall be backfilled and compacted to the required moisture and density of the adjacent fill. Additional tests shall be made as necessary. All test results shall be made available to the Contracting Officer. Acceptance tests may be made by the Government for verification of compliance; however, the Contractor shall not depend on such test for his control of operations. Deficiencies in construction shall be corrected by the contractor at no additional cost to the Government.

### 3.5.6 Density-Moisture Determinations for Vent Materials

Test for determination of maximum density and optimum moisture content shall be performed by the contractor in accordance with the requirements of ASTM D 4253 . A minimum of one laboratory density and gradation test shall be performed each placement day or fraction thereof. Additional tests shall be run for each material change.

## 3.6 PROTECTION

Newly graded areas shall be protected from traffic and from erosion, and any settlement or washing away that may occur from any cause, prior to acceptance, shall be repaired and grades reestablished to the required elevations and slopes. All work shall be conducted in accordance with the environmental protection requirements or the contract.

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## SECTION 02245

### GEOCOMPOSITE MEMBRANE LINER (GML)

#### PART 1 - GENERAL

##### 1.1 SCOPE

This section covers the furnishing and installation of a geocomposite membrane liner(s). All work shall be performed in strict accordance with the liner manufacturer's recommendations, as shown on the drawings, and as described in the specifications. The term "geocomposite membrane liner" shall be defined as a 40 mil, High Density Polyethylene (HDPE), liner with either a sodium bentonite glued to the HDPE liner or combination of the 40 mil HDPE Liner and a separate sodium bentonite liner, glued or sewn to a fabric, and placed under the HDPE liner. The term "geocomposite membrane liner" will be abbreviated "GML" in the remainder of this section.

##### 1.2 APPLICABLE PUBLICATIONS

The publications listed below form a part of the specification to the extent referenced. The publications are referenced to in the text by basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 638	(1989) Tensile Properties of Plastics.
ASTM D 696	(1991) Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 Degrees C and 30 Degrees C
ASTM D 1004	(1990) Initial Tear Resistance of Plastic Film and Sheeting.
ASTM D 1204	(1984) Linear Dimensional changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature.
ASTM D 1238; REV B	(1988) Flow Rates of Thermoplastics by Extrusion Plastometer.
ASTM D 1505	(1985; R 1990) Density of Plastics by the Density-Gradient Technique.
ASTM D 1593	(1981; R 1988) Nonrigid Vinyl Chloride Plastic Sheeting.
ASTM D 1693	(1979; R 1988) Environmental Stress - Cracking of Ethylene Plastics.

ASTM D 2216 (1980) Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures

ASTM D 2434 (R 1974) Test Method for Permeability of Granular Soils (Constant Head)

ASTM D 3083 (1976; R 1983) Specification for Flexible Poly (Vinyl Chloride) Plastic Sheeting for Pond, Canal, and Reservoir Lining.

ASTM D 3895 (1980; R 1986) Copper - Induced Oxidative Induction Time of Polyolefins by Thermal Analysis.

ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials.

#### FEDERAL TEST METHOD STANDARDS (FTMS)

101 C 2065.1 Puncture Resistance and Elongation Test.

### 1.3 SUBMITTALS

Submit shop drawings for GML installation, including anchorage details, penetration details, and layout plan.

Submit copies of laboratory and field test reports presenting data on GML materials and seams.

The following shall be submitted in accordance with Section 01300 SUBMITTALS:

#### SD-70, Test Reports

Certified copies of laboratory test reports, including all test data, shall be submitted for the sodium bentonite. These tests shall be made by an approved commercial laboratory or by a laboratory maintained by the manufacturers of the materials.

#### SD-76, Certificates of Compliance

The HDPE liner and Sodium Bentonite will be accepted on the basis of manufacturer's certification of compliance, accompanied by mill test reports attesting that the materials meet the requirements of the specification under which it is furnished. No GML shall be used until notice of acceptance has been given by the Contracting Officer. The GML materials may be subjected to check testing by the Government. Samples may be obtained at the mill, at transfer points, or at the project site.

## 1.4 GENERAL REQUIREMENTS

### 1.4.1 HDPE Liner Material

The material shall be unsupported high-density polyethylene (HDPE) 40 mil in thickness and shall be extruded to produce a uniform sheet free of defects such as holes, tears, nodules, blisters, or other manufacturing defects that may effect the serviceability. The HDPE liner shall conform to the following criteria listed below:

<u>ITEM</u>	<u>40 MIL</u>	<u>SPECIFICATION</u>
Thickness, mils (nominal)	40	ASTM D 1593 Par 8.1.3
Density g/cc (Min)	0.94	ASTM D 1505
Melt Flow Index g/10 (Max)	0.3	ASTM D 1238 Condition E (190°C, 2.16 kg)
Tensile Properties (Typical)		ASTM D 638 Type IV
1. Tensile Strength at Break (lbs/inch width)	160	Dumb-bell at 2 ipm
2. Tensile Strength at Yield (lbs/inch width)	95	
3. Elongation at Break (Percent)	700	
4. Elongation at Yield (Percent)	13	
Tear Resistance Initiation lbs (Typical)	30	ASTM D 1004 Die C Condition E (190°C, 2.16 kg)
Dimensional Stability % Change each direction (Max)	±2	ASTM D 1204 Condition E (190°C, 2.16 kg)
Resistance to Soil Burial Percent Change in Original Value (Typ)		ASTM D 3083 using ASTM D 638 Type IV Dumb-bell at 2 ipm
1. Tensile Strength at Break	±10	
2. Tensile Strength at Yield	±10	
3. Elongation at Break	±10	
4. Elongation at Yield	±10	
Environmental Stress Crack Hours (Min)	1500	ASTM D 1693 (10% Igepal, 50°C)
Puncture Resistance Pounds (Typ)	52	FTMS Method 2065

<u>ITEM</u>	<u>40 MIL</u>	<u>SPECIFICATION</u>
Coefficient of Liner Thermal Expansion x 10 <sup>-4</sup> cm/(cm °C) (Typical)	1.2	ASTM D 696
Thermal Stability Oxidation Induction Time Minutes (Min)	2000	ASTM D 3895 130°C, 800 psi O <sub>2</sub>
Coefficient of Permeability cm/sec (max)	1x10 <sup>-12</sup>	ASTM E 96

#### 1.4.2 Sodium Bentonite

The Sodium Bentonite material and/or liner shall be a uniform sheet free of defects such as holes, tears, nodules, blisters, or other manufacturing defects that may effect the serviceability. The Sodium Bentonite shall conform to the following criteria listed below:

<u>ITEM</u>	<u>BENTONITE</u>	<u>SPECIFICATION</u>
Bentonite Loading lbs/ft <sup>2</sup> (Min)	1.0	
Hydraulic Conductivity cm/sec (Max)	1x10 <sup>-9</sup>	
Percent Montmorillonite	80-90%	
Silicon Dioxide (SiO <sub>2</sub> )	55-64%	
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	16-22%	
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> )	3-6%	
Sodium Oxide (Na <sub>2</sub> O)	0-3%	
Magnesia (MgO)	2-4%	
Lime (CaO)	0-3%	
Water Content	5-20%	ASTM D 2216
Bulk Density lbs/ft <sup>3</sup> (Typ)	77	

#### 1.5 STORAGE OF GML

Until installed, factory-fabricated panels shall be stored in their original unopened crates; if outdoors, they shall be stored on pallets and shall be protected from the direct rays of the sun under a light-colored, heat-reflective, opaque cover in a manner that provides a free-flowing air space between the crate and cover. The Contractor shall be responsible for providing all required care and see that the GML is kept in good condition prior to its installation. Any GML materials found to be damaged shall be replaced with new at the Contractor's expense.

## PART 2 - PRODUCTS

### 2.1 GENERAL

The manufacturer(s) shall have produced, and have in service in similar applications for a period of not less than one (1) year and at least five (5) million square feet of GML meeting these specifications. The GML manufacturer(s) shall furnish to the Government, evidence of this prior to the start of work. This evidence shall include names of contacts and phone numbers.

The Contractor shall provide GML products, or there equal, meeting the following specifications:

40 mil HDPE with glued Sodium Bentonite to liner; Gundseal from

Gundle Lining Systems, Inc.  
19103 Gundle Road  
Houston, Texas 77073;  
1-800-435-2008.

40 mil HDPE Liner with a separate sodium bentonite liner, glued or sewn to a fabric, and placed under the HDPE liner:

BENTOMAT from  
CETCO  
1500 West Shure Dr.  
Arlington Heights, IL 60004-1434  
(708) 392-5800

CLAYMAX from  
James Clem Corporation  
444 N. Michigan Ave  
Suite 1610  
Chicago, Illinois 60611  
(312) 321-6255  
or  
(505) 989-7029 - Southwest Office

If the Contractor proposes to provide other types of materials, complete laboratory and descriptive information shall be submitted for evaluation by the Contracting Officer.

## PART 3 - EXECUTION

### 3.1 PREPARATION OF SUBGRADE FOR GML

The subgrade for the GML shall be prepared as specified in SECTION 02215 - PLASTIC FILTER FABRIC. An authorized representative of the GML manufacturer(s) shall certify in writing that the surface on which the GML is to be placed is acceptable, prior to start of GML placement.

## 3.2 PLACEMENT OF GML

### 3.2.1 General

The Contractor shall require the GML manufacturer(s) to furnish the services of a competent, factory trained, field technical representative to supervise installation of the GML. The GML shall be placed over the prepared surfaces to be lined in such a manner as to assure minimum handling. Any portion of GML damaged during installation shall be removed or repaired by using an additional piece of GML, as specified hereinafter.

All equipment, tools, and machines used in performance of the work shall be subject to approval prior to commencement of work by the Contracting Officer. This equipment shall be maintained in satisfactory working conditions at all times.

### 3.2.2 Weather Limitations

GML shall be placed only when the temperature is above 45 degrees F. GML shall not be placed during rain, snow, or bad weather.

### 3.2.3 Field Procedures

Field procedures shall be specifically suitable for the type of GML selected by the Contractor. The GML shall be installed with the bentonite face or layer down. The GML joints shall be overlapped a minimum of 1-foot, or as specified in the plans, with a layer of bentonite between the over lapping HDPE liners. The overlap edges shall be tapped to prevent the intrusion of soil between the overlap during placement of the overlaying soil. The GML shall be free of wrinkles, bulges and folds. Procedures for alternative material shall be submitted for evaluation by the Contracting Officer.

### 3.2.4 Quality of Workmanship

All joints, on completion of the work, shall be properly overlaid. Any lining surface showing improper installation, injury due to scuffing, penetration by foreign objects, or distress from rough subgrade shall, as directed by the Contracting Officer, be replaced or repaired at no additional cost to the Government.

## 3.3 SAMPLING AND TESTING

### 3.3.1 Sampling and Testing at Jobsite

#### 3.3.1.1 Inspection of Sheet Installation

The Contractor shall conduct a visual inspection of each panel or sheet as it is unrolled. The Contracting Officer shall be notified of any damage. All faulty areas shall be repaired as specified in paragraph, PLACEMENT OF GML.

### 3.3.2 Approval of Materials

Source of all materials shall be selected well in advance of the time that materials will be required in the work. Manufactures certification and test results for the HDPE liner and sodium bentonite shall be submitted for approval not less than 30 days before the material is required for the work.

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SECTION 02935 - TURF

PART 1 GENERAL

1.1 SUMMARY (Not Applicable)

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AGRICULTURAL MARKETING SERVICE (AMS)

AMS-01 (Sep 1977; Amended Oct 29, 1986) Federal Seed Act Regulations (Part 20): Certified Seed Regulations

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 2607 (1969) Peats, Mosses, Humus, and Related Products

FEDERAL SPECIFICATIONS (FS)

FS O-F-241 (Rev D) Fertilizers, Mixed, Commercial

FS JJJ-S-181 (Rev B) Seeds, Agricultural

1.3 SUBMITTALS

The following shall be submitted in accordance with Section 01300 SUBMITTALS:

SD-17, Manufacturer's Catalog Data

Manufacturer's literature discussing physical characteristics, application and installation instructions for erosion control material, and for chemical treatment material shall be submitted.

SD-43, Construction Equipment List

A list of proposed seeding and mulching equipment to be used in performance of turfing operation, including descriptive data and calibration tests.

SD-62, Work Plan

a. Delivery Schedule. Submittal of the delivery schedule shall be at least 10 days prior to the intended date of the first delivery.

b. Maintenance Report. Written record of maintenance work performed shall be furnished.

c. Turf Establishment Period. Written calendar time period for the turf establishment period shall be furnished. When there is more than one turf establishment period, describe the boundaries of the turfed area covered for each period.

#### SD-76, Certificates of Compliance

Prior to the delivery of materials, certificates of compliance shall be submitted certifying that materials meet the requirements specified. Certified copies of the reports for the following materials shall be submitted.

a. Seed: For mixture, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, date tested and state certification.

b. Fertilizer: For chemical analysis, composition percent.

c. Agricultural Limestone: For calcium carbonate equivalent and sieve analysis.

d. Peat: For compliance with ASTM D 2607.

e. Topsoil: For pH, particle size, chemical analysis and mechanical analysis.

### 517 Gold Ave S.W. 1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

#### 1.4.1 Delivery

##### 1.4.1.1 Topsoil

A soil test shall be provided for topsoil delivered to the site.

##### 1.4.1.2 Soil Amendments

Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

#### 1.4.2 Inspection

Seeds shall be inspected upon arrival at the job site by the Contracting Officer for conformity to type and quality in accordance with paragraph MATERIALS. Other materials shall be inspected for meeting specified requirements and unacceptable materials shall be removed from the job site.

#### 1.4.3 Storage

Materials shall be stored in areas designated by the Contracting Officer. Seed, lime and fertilizer shall be stored in cool, dry locations away from contaminations.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Seed

2.1.1.1 Seed Classification

State-certified seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material. Labels shall be in conformance with AMS-01 and applicable state seed laws.

2.1.1.2 Seed Mixtures

Seed mixtures shall be proportioned by weight as follows:

Botanical Name	Common Name	Mixture Percent by Weight	Percent Pure Live Seed
<i>Bouteloua gracilis</i> 'Lovington' or 'Hachita'	BLUE GRAMA	17	98
<i>Bouteloua curtipendula</i> 'El Reno'	SIDE-OATS GRAMA	35	98
<i>Buchloe dactyloides</i> 'Texoka'	BUFFALO GRASS	35	98
<i>Agropyron smithii</i>	WESTERN WHEAT GRASS	9	98
<i>Sporobolus airoides</i>	ALKALI SACATON	4	98

2.1.1.3 Quality

Seed shall conform to FS JJJ-S-181. Weed seed shall not exceed 1 percent by weight of the total mixture. Wet, moldy, or otherwise damaged seed shall be rejected.

2.1.1.4 Seed Mixing

The field mixing of seed shall be performed on site in the presence of the Contracting Officer.

2.1.2 Soil Amendments

Soil amendments shall consist of lime, fertilizer, organic soil amendments and soil conditioners meeting the following requirements.

2.1.2.1 Lime

Lime shall be agricultural limestone and shall have a minimum calcium carbonate equivalent of 90 percent and shall be ground to such a fineness that at least 90 percent will pass a 10-mesh sieve and at least 50 percent will pass a 60-mesh sieve.

2.1.2.2 Fertilizer

Fertilizer shall be commercial grade, free flowing, uniform in composition and conforming to FS O-F-241. Granular Fertilizer: As recommended by the soil test.

2.1.2.3 Organic Soil Amendments

a. Topsoil: The existing surface soil shall be stripped and stockpiled on the site in accordance with Section 02210 GRADING. When required beyond that available from stripping, the topsoil shall be delivered. Delivered topsoil shall conform to topsoil requirements specified in Section 02210 GRADING, and shall be amended as recommended by soil test.

b. Peat: Peat moss derived from a bog, swampland or marsh shall conform to ASTM D 2607.

c. Sand: Clean, free of toxic materials; 95 percent by weight shall pass a 10-mesh sieve and 10 percent by weight shall pass a 16-mesh sieve.

d. Rotted Manure: Well rotted, horse or cattle manure containing a maximum 25 percent by volume of straw, sawdust, or other bedding materials, free of stones, sticks, soil and containing no chemicals or ingredients harmful to plants.

e. Decomposed Wood Derivatives: Ground bark, sawdust, or other wood waste material free of stones, sticks, soil, and toxic substances harmful to plants, stabilized with nitrogen and having the following properties:

Particle Size: Minimum percent by weight passing:

Screen Size	Percent
No. 4 mesh Screen	95
No. 8 mesh screen	80

Nitrogen Content: Minimum percent based on dry weight:

Material	Percent
Redwood Sawdust	0.5
Fir Sawdust	0.7
Fir or Pine Bark	1.0

f. Calcined Clay: Granular particles produced from montmorillonite clay calcined to minimum temperature of 1200 degrees F to the following gradation: minimum 90 percent passing 8-mesh screen, 99 percent retained on 60-mesh screen and maximum 2 percent passing 100-mesh screen. Bulk density: maximum 40 pounds per cubic foot.

#### 2.1.2.4 Soil Conditioner

Soil conditioner shall be for single use or in combination to meet requirements for topsoil. Gypsum shall be commercially packaged, free flowing, minimum 95 percent calcium sulfate by volume.

#### 2.1.3 Mulch

Mulch shall be free from weeds, mold, and other deleterious materials.

##### 2.1.3.1 Straw

Straw shall be stalks from oats, wheat, rye, barley, or rice furnished in air-dry condition and with a consistency for placing with commercial mulch-blowing equipment.

##### 2.1.3.2 Hay

Hay shall be native hay, sudan-grass hay, broomsedge hay, or other herbaceous mowings furnished in an air-dry condition suitable for placing with commercial mulch-blowing equipment.

##### 2.1.3.3 Wood Cellulose Fiber

Wood cellulose fiber shall not contain any growth or germination-inhibiting factors and shall be dyed an appropriate color to facilitate visual metering during application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0.

##### 2.1.3.4 Wood Chips

Wood chips shall be chips or shredded bark with maximum particle size of 3/16 inch.

##### 2.1.3.5 Paper Fiber Mulch

Paper fiber mulch shall be recycled news print that is shredded for the purpose of mulching seed.

#### 2.1.4 Water

Water shall not contain elements toxic to plant life.

#### 2.1.5 Erosion Control Material

Soil erosion control shall conform to the following:

#### 2.1.5.1 Soil Erosion Control Blanket

Machine produced mat of wood excelsior formed from a web of interlocking wood fibers, covered on one side with either knitted straw blanket-like mat construction, covered with biodegradable plastic mesh, or interwoven biodegradable thread, plastic netting or twisted kraft paper cord netting.

#### 2.1.5.2 Soil Erosion Control Fabric

Knitted construction of polypropylene yarn with uniform mesh openings 3/4 to 1 inch square with strips of biodegradable paper. Filler paper strips shall last 6 to 8 months.

#### 2.1.5.3 Soil Erosion Control Net

Heavy, twisted jute mesh weighing approximately 1.22 pounds per linear yard and 4 feet wide with mesh openings of approximately 1 inch square.

#### 2.1.5.4 Soil Erosion Control Chemicals

High-polymer synthetic resin or cold-water emulsion of selected petroleum resins.

#### 2.1.5.5 Hydrophilic Colloids

Hydrophilic colloids shall be physiologically harmless to plant and animal life, without phytotoxic agents. Colloids shall be naturally occurring, silicate powder based, and shall form a water insoluble membrane after curing. Colloids must resist mold growth.

#### 2.1.5.6 Anchors

Erosion control anchor material shall be as recommended by the manufacturer.

### PART 3 EXECUTION

#### 3.1 SEEDING TIMES AND CONDITIONS

##### 3.1.1 Seeding Time

Seed shall be sown from March to May for spring planting and from June to August for fall planting.

##### 3.1.2 Turfing Conditions

Turf operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the turf operations, proposed times shall be submitted to and approved by the Contracting Officer.

## 3.2 SITE PREPARATION

### 3.2.1 Grading

The Contracting Officer shall verify that finished grades are as indicated on drawings, and the placing of topsoil and the smooth grading has been completed in accordance with Section 02210 GRADING.

### 3.2.2 Application of Soil Amendments

#### 3.2.2.1 Soil Test

A soil test shall be performed for pH, chemical analysis and mechanical analysis to establish the quantities and type of soil amendments required to meet local growing conditions for the type and variety of turf specified.

#### 3.2.2.2 Lime

Lime shall be applied at the rate recommended by the soil test. Lime shall be incorporated into the soil to a minimum depth of 4 inches or may be incorporated as part of the tillage operation.

#### 3.2.2.3 Fertilizer

Fertilizer shall be applied at the rate recommended by the soil test. Fertilizer shall be incorporated into the soil to a minimum depth of 4 inches or may be incorporated as part of the tillage or hydroseeding operation.

#### 3.2.2.4 Soil Conditioner

Soil Conditioner shall be spread uniformly over the soil to a minimum depth of 1/2 inches and thoroughly incorporated by tillage into the soil to a minimum depth of 4 inches.

### 3.2.3 Tillage

#### 3.2.3.1 Minimum Depth

Soil on slopes gentler than 3-horizontal-to-1-vertical shall be tilled to a minimum depth of 4 inches. On slopes between 3-horizontal-to-1-vertical and 1-horizontal-to-1 vertical, the soil shall be tilled to a minimum depth of 2 inches by scarifying with heavy rakes, or other method. Rototillers shall be used where soil conditions and length of slope permit. On slopes 1-horizontal-to-1 vertical and steeper, no tillage is required.

### 3.2.4 Finished Grading

#### 3.2.4.1 Preparation

Turf areas shall be filled as needed or have surplus soil removed to attain the finished grade. Drainage patterns shall be maintained as indicated on drawings. Turf areas compacted by construction operations shall be completely

pulverized by tillage. Soil used for repair of erosion or grade deficiencies shall conform to topsoil requirements specified in Section 02210 GRADING. Finished grade shall be 1 inch below the adjoining grade of any surfaced area. New surfaces shall be blended to existing areas.

#### 3.2.4.2 Field Area Debris

Field areas shall have debris and stones larger than 3 inches in any dimension removed from the surface.

#### 3.2.4.3 Protection

Finished graded areas shall be protected from damage by vehicular or pedestrian traffic and erosion.

### 3.3 SEEDING

#### 3.3.1 General

Prior to seeding, any previously prepared seedbed areas compacted or damaged by interim rain, traffic or other cause, shall be reworked to restore the ground condition previously specified. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.

#### 3.3.2 Equipment Calibration

The equipment to be used and the methods of turfing shall be subject to the inspection and approval of the Contracting Officer prior to commencement of turfing operations. Immediately prior to the commencement of turfing operations, the Contractor shall conduct turfing equipment calibration tests in the presence of the Contracting Officer.

#### 3.3.3 Applying Seed

##### 3.3.3.1 Drill Seeding

Seed shall be uniformly drilled to an average depth of 1/2 inch and at the rate of 9 pounds per 1000 square feet using equipment having drills not more than 6-1/2 inches apart. Row markers shall be used with the drill seeder.

##### 3.3.3.2 Rolling

Immediately after seeding, except for slopes 3-horizontal-to-1 vertical and greater, the entire area shall be firmed with a roller not exceeding 90 pounds for each foot of roller width. Areas seeded with seed drills equipped with rollers shall not be rolled.

##### 3.3.4 Hydroseeding

Seed and fertilizer shall be added to water and thoroughly mixed at the rates specified. Wood cellulose fiber mulch shall be added at the rates recommended by the manufacturer after the seed, fertilizer and water have been thoroughly

mixed, to produce a homogeneous slurry. Slurry shall be uniformly applied under pressure over the entire area. The hydroseeded area shall not be rolled.

### 3.3.5 Mulch

#### 3.3.5.1 Straw or Hay Mulch

Straw or hay mulch shall be spread uniformly at the rate of 2 tons per acre. Mulch shall be spread by hand, blower-type mulch spreader or other approved method. Mulching shall be started on the windward side of relatively flat areas or on the upper part of a steep slope and continued uniformly until the area is covered. The mulch shall not be bunched. All seeded areas shall be mulched on the same day as the seeding.

#### 3.3.5.2 Mechanically Anchoring

Immediately following spreading, the mulch shall be anchored to the soil by a V-type-wheel land packer, a scalloped-disk land packer designed to force mulch into the soil surface, or other suitable equipment.

#### 3.3.5.3 Non-Asphaltic Tackifier

Hydrophilic colloid shall be applied at rate recommended by manufacturer. Apply with hydraulic equipment suitable for mixing and applying uniform mixture of tackifier.

#### 3.3.5.4 Wood Cellulose Fiber

Wood cellulose fiber mulch for use with the hydraulic application of seed and fertilizer shall be applied as part of the hydroseeding operation.

### 3.3.6 Water

Watering shall be started within 7 days after completing the seeded area. Water shall be applied at a rate sufficient to ensure moist soil conditions to a minimum depth of 1 inch. Run-off and puddling shall be prevented.

## 3.4 EROSION CONTROL

### 3.4.1 Erosion Control Material

Erosion control material, where indicated or required, shall be installed in accordance with manufacturer's instructions. Placement of the erosion control material shall be accomplished without damage to installed material or without deviation to finished grade.

### 3.4.2 Temporary Turf Cover

#### 3.4.2.1 General

When there are contract delays in the turfing operation or a quick cover is required to prevent erosion, the areas designated for turf shall be seeded with a temporary seed as directed by the Contracting Officer.

#### 3.4.2.2 Application

When no other turfing materials have been applied, the quantity of one half of the required soil amendments shall be applied and the area tilled in accordance with paragraph SITE PREPARATION. Seed shall be uniformly broadcast and applied at the rate of 9 pounds per 1000 square feet. The area shall be watered as required.

### 3.5 RESTORATION AND CLEAN UP

#### 3.5.1 Restoration

Existing turf areas, pavements and facilities that have been damaged from the turfing operation shall be restored to original condition at Contractor's expense.

#### 3.5.2 Clean Up

Excess and waste material shall be removed from the planting operation and shall be disposed of off the site. Adjacent paved areas shall be cleaned.

### 3.6 PROTECTION OF TURFED AREAS

Immediately after turfing, the area shall be protected against traffic or other use by erecting barricades and providing signage as required, or as directed by the Contracting Officer.

### 3.7 TURF ESTABLISHMENT PERIOD

#### 3.7.1 Commencement

The Turf Establishment Period for establishing a healthy stand of turf shall begin on the first day of work under this contract and shall end three (3) months after the last day of turfing operations required by this contract. Written calendar time period shall be furnished to the Contracting Officer for the Turf Establishment Period. When there is more than one turf establishment period, describe the boundaries of the turfed area covered for each period.

### 3.7.2 Satisfactory Stand of Turf

#### 3.7.2.1 Seeded Area

a. Field Area: A satisfactory stand of turf from the seeding operation for a field area is defined as a minimum of 10 grass plants per square foot. The total bare spots shall not exceed 2 percent of the total seeded area.

### 3.7.3 Maintenance During Establishment Period

#### 3.7.3.1 General

Maintenance of the turfed areas shall include eradicating weeds, eradicating insects and diseases, protecting embankments and ditches from erosion, maintaining erosion control materials and mulch, protecting turfed areas from traffic, watering, and post-fertilization.

#### 3.7.3.2 Watering

Watering shall be at intervals to obtain a moist soil condition to a minimum depth of 1 inch. Frequency of watering and quantity of water shall be adjusted in accordance with the growth of the turf. Run-off, puddling and wilting shall be prevented.

#### 3.7.3.3 Post-Fertilization

Nitrogen carrier fertilizer shall be applied at the rate of 1 pound per 1000 square feet after the first month and again in 3 months. The application shall be timed prior to the advent of winter dormancy and shall avoid excessively high nitrogen levels.

#### 3.7.3.4 Repair

The Contractor shall re-establish as specified herein, eroded, damaged or barren areas. Mulch shall also be repaired or replaced as required.

#### 3.7.3.5 Maintenance Report

A written record shall be furnished to the Contracting Officer of the maintenance work performed.

### 3.8 FINAL ACCEPTANCE

#### 3.8.1 Preliminary Inspection

Prior to the completion of the Turf Establishment Period, a preliminary inspection shall be held by the Contracting Officer. Time for the inspection shall be established in writing. The acceptability of the turf in accordance with the Turf Establishment Period shall be determined. An unacceptable stand of turf shall be repaired as soon as turfing conditions permit.

### 3.8.2 Final Inspection

A final inspection shall be held by the Contracting Officer to determine that deficiencies noted in the preliminary inspection have been corrected. Time for the inspection shall be established in writing.

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